

FINAL

# 2010 PARK WATER COMPANY URBAN WATER MANAGEMENT PLAN

*Prepared for:*



**Park Water Company**

*Prepared by:*  
**Kennedy/Jenks Consultants**

June 2011

**RESOLUTION  
OF BOARD OF DIRECTORS OF  
PARK WATER COMPANY  
A CALIFORNIA CORPORATION**

At a regularly scheduled and duly noticed meeting of the Board of Directors of Park Water Company, held on June 23, 2011, and at which a quorum of the Directors were present, the Board passed the following Resolution:

**WHEREAS**, the California Urban Water Management Planning Act, Water Code section 10610 et seq. (the Act) mandates that every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare and adopt an updated Urban Water Management Plan (UWMP) at least once every five years on or before December 31, in years ending five and zero; and

**WHEREAS**, the Water Conservation Act of 2009, Water Code section 10608 et seq. (SBX7-7), extended the time by which urban retail water suppliers must adopt their 2010 UWMPs to July 1, 2011 and, among other things, established requirements for urban retail water suppliers to prepare urban water use targets in accordance with the goals of SBX7-7 to reduce statewide daily per capita water use by 15 percent by the year 2015 and 20 percent by the year 2020; and

**WHEREAS**, Park Water Company is an "urban retail water supplier" for purposes of SBX7-7 because it directly provides potable municipal water to more than 3,000 end users; and

**WHEREAS**, in accordance with applicable law, including the requirements of the Act and SBX7-7, Park Water Company has prepared its 2010 UWMP and has undertaken certain agency coordination, public notice, public involvement and outreach, public comment, and other procedures in relation to its 2010 UWMP; and

**WHEREAS**, in accordance with applicable law, including Water Code sections 10608.26 and 10642, and Government Code section 6066, Park Water Company made its Draft 2010 UWMP available for public inspection, and caused to be published within the jurisdiction of the Park Water Company at least two notices of public hearing regarding the Park Water Company's 2010 UWMP, two of which publication dates were May 27, 2011 and June 3, 2011; and

**WHEREAS**, in accordance with applicable law, a public hearing was held on June 20, 2011 at 10:00 am at the office of Park Water Company, located at 9450 Washburn Road, Downey, California 90241 to, among other things, provide members of the public and other interested entities with the opportunity to be heard in connection with Park Water Company's 2010 UWMP and the proposed adoption thereof; and

**WHEREAS**, the Board of Directors of Park Water Company has reviewed and considered the purposes and requirements and of the Urban Water Management Planning Act and SBX7-7, the contents of the 2010 UWMP, the documentation contained in the administrative record in support of the 2010 UWMP, and all public and agency input received with regard to the



2010 UWMP, and has determined that the factual analyses and conclusions set forth in the 2010 UWMP are supported by substantial evidence; and

**WHEREAS**, the 2010 Plan is a general information document and complements other regional water planning documents, including the Central Basin Municipal Water District's and Metropolitan Water District of Southern California's 2010 Regional Urban Water Management Plans; and

**WHEREAS**, the 2010 Plan provides a local perspective and analysis of the current and future water demands and supplies within the service area of Park Water Company's Central Basin Division; and

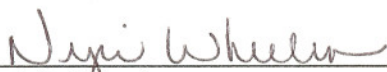
**WHEREAS**, the 2010 Plan describes water quality impacts on water supply reliability, water demand management measures, and water shortage contingency planning for Park Water Company's Central Basin Division; and

**WHEREAS**, the 2010 Plan describes Park Water's SBX7-7 baselines, targets, implementation plan and economic impacts of achieving the targets; and

**WHEREAS**, the Board of Directors has reviewed the 2010 Plan and acknowledges the essential nature of a long-term, reliable water supply within its boundaries as described therein.

**NOW THEREFORE, BE IT HEREBY RESOLVED that the Board of Directors of the Park Water Company:**

1. Adopts Method 3 under Water Code section 10608.20(b) for determining its urban water use targets; and
2. Adopts the 2010 Urban Water Management Plan; and
3. Authorizes and directs the General Manager to implement the components of the 2010 Urban Water Management Plan in accordance with the Urban Water Management Planning Act and SBX7-7, including, but not limited to, the Park Water Company's Water Conservation Programs and its Water Shortage Contingency Plan.

  
Nyri A. Wheeler  
Corporate Secretary

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## Section 1: Introduction

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This volume presents the 2010 Urban Water Management Plan (Plan) for the Park Water Company (Park) service area. This section describes the general purpose of the Plan, discusses Plan implementation, and provides general information about Park, Park's wholesaler, and service area characteristics. A list of acronyms and abbreviations is also provided.

### 1.1 Purpose

An Urban Water Management Plan (UWMP) is a planning tool that generally guides the actions of water management agencies. It provides managers and the public with a broad perspective on a number of water supply issues. It is not a substitute for project-specific planning documents, nor was it intended to be when mandated by the State Legislature. For example, the Legislature mandated that a plan include a section which "describes the opportunities for exchanges or water transfers on a short-term or long-term basis." (California Urban Water Management Planning Act, Article 2, Section 10630(d).) The identification of such opportunities, and the inclusion of those opportunities in a general water service reliability analysis, neither commits a water management agency to pursue a particular water exchange/transfer opportunity, nor precludes a water management agency from exploring exchange/transfer opportunities not identified in the Plan. When specific projects are chosen to be implemented, detailed project plans are developed, environmental analysis, if required, is prepared, and financial and operational plans are detailed.

In short, this Plan is a management tool, providing a framework for action, but not functioning as a detailed project development or action. It is important that this Plan be viewed as a long-term, general planning document, rather than as an exact blueprint for supply and demand management. Water management in California is not a matter of certainty, and planning projections may change in response to a number of factors. From this perspective, it is appropriate to look at the Plan as a general planning framework, not a specific action plan. It is an effort to generally answer a series of planning questions including:

- What are the potential sources of supply and what is the reasonable probable yield from them?
- What is the probable demand, given a reasonable set of assumptions about growth and implementation of good water management practices?
- How well do supply and demand figures match up, assuming that the various probable supplies will be pursued by the implementing agency?

Using these "framework" questions and resulting answers, Park will pursue feasible and cost-effective options and opportunities to meet demands. Specific planning efforts will be undertaken in regard to each option, involving detailed evaluations of how each option would fit into the overall supply/demand framework, how each option would impact the environment, and how each option would affect customers. The objective of these more detailed evaluations would be to find the optimum mix of conservation and supply programs to ensure the needs of Park's customers are met.

The California Urban Water Management Planning Act (Act) requires preparation of a plan that:

- Accomplishes water supply planning over a 20-year period in five year increments. (Park is going beyond the requirements of the Act by developing a plan which spans 25 years.)
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and efficient use of urban water supplies.

A checklist to ensure compliance of this Plan with the Act requirements is provided in Appendix A.

In short, the Plan answers the question: Will there be enough water for Park's service area in future years, and what mix of programs should be explored for making this water available?

It is the stated goal of Park to deliver a reliable and high quality water supply for their customers, even during dry periods. Based on conservative water supply and demand assumptions over the next 25 years in combination with conservation of non-essential demand during certain dry years, the Plan successfully achieves this goal.

## 1.2 Implementation of the Plan

Park is an investor-owned water utility that provides retail water service to approximately 27,158 connections in southeast Los Angeles County. Current water supplies include Central Basin groundwater (the basin is managed by the Water Replenishment District of Southern California [WRD]), imported water purchased from the Central Basin Municipal Water District (CBMWD), and recycled water. CBMWD is a member agency of the Metropolitan Water District of Southern California (MWD). This subsection provides the cooperative framework within which the Plan will be implemented including agency coordination, public outreach, and resources maximization.

### 1.2.1 Joint Preparation of the Plan

Water agencies are permitted by the State to work together to develop a cooperative regional plan. Because Park serves over 3,000 acre-feet per year of water and has over 3,000 service connections, it must prepare an UWMP, and due to Park's dependency on CBMWD and MWD for a large proportion of its water supply, it must be closely coordinated and consistent with CBMWD's and MWD's UWMPs. In addition, Park provides water to a number of cities, including the cities of Artesia, Bellflower, Compton, Lynwood, Norwalk and Santa Fe Springs. These cities were notified regarding Park's 2010 UWMP. Agency coordination for this Plan is summarized in Table 1-1.



**TABLE 1-1  
AGENCY COORDINATION SUMMARY**

	<b>Participated in UWMP Development</b>	<b>Received Copy of Draft</b>	<b>Commented on Draft</b>	<b>Attended Public Meetings</b>	<b>Contacted for Assistance</b>	<b>Sent Notice of Intent to Adopt</b>	<b>Not Involved</b>
Central Basin Municipal Water District		✓			✓	✓	
MWD Water District of Southern California		✓			✓	✓	
Water Replenishment District of Southern California		✓				✓	
City of Artesia		✓				✓	
City of Bellflower		✓				✓	
City of Compton		✓				✓	
City of Lynwood		✓				✓	
City of Norwalk		✓				✓	
City of Santa Fe Springs		✓				✓	
Los Angeles County Department of Regional Planning		✓				✓	
County Sanitation Districts of Los Angeles County (LACSD)		✓	✓			✓	

### 1.2.2 Public Outreach

Park notified the cities within its service area and Los Angeles County of the opportunity to provide input regarding the Plan. Table 1-2 presents a timeline for public participation during the development of the Plan. A copy of the public outreach materials, including website postings and invitation letters, are included in Appendix B.

**TABLE 1-2  
PUBLIC PARTICIPATION TIMELINE**

June 8, 2011	Preliminary Draft UWMP	Preliminary Draft released to solicit input
June 20, 2011	Public Hearing	UWMP considered for adoption by Park's Board
June 23, 2011	Adoption of UWMP	Board adoption of 2010 UWMP per Resolution
July 23, 2011	Final UWMP	Final UWMP released

The components of public participation include:

### **Local Media**

- Paid notice in the Long Beach Press Telegram

### **Water Agencies Public Participation**

- Metropolitan Water District of Southern California
- Central Basin Municipal Water District
- Water Replenishment District of Southern California
- County Sanitation Districts of Los Angeles County

### **City/County Outreach**

- Planning Divisions of local Cities:
  - Artesia
  - Bellflower
  - Compton
  - Lynwood
  - Norwalk
  - Santa Fe Springs
- Los Angeles County Department of Regional Planning

### **Public Availability of Documents**

- Park Water Company website

#### **1.2.3 Resources Maximization**

Park has been making an effort to maximize the use of available resources while minimizing the use of imported water. In 2006, Park became a participant in the Memorandum of Understanding Regarding Water Conservation in California (MOU), and a member of the California Urban Water Conservation Council (CUWCC). Signatories to the MOU pledge to implement fourteen comprehensive conservation Best Management Practices (BMPs).

Park's groundwater resources are managed by the WRD. The WRD was formed by the Water Replenishment Act, and manages, regulates, replenishes and protects the quality of the groundwater supplies within its boundaries.

This Plan, along with other planning documents, will be used by Park staff to guide water use and management efforts through 2035, subject to changing conditions as identified in the required five-year updates of the UWMP.

Several documents and efforts were used to enable Park to maximize the use of available resources and minimize use of imported water, including the CBMWD UWMP. Chapter 3 of this Plan describes in detail the water resources available to Park for the 25-year period covered by the Plan. Additional discussion regarding documents developed to maximize resources is included in Chapter 3 and Chapter 6.

### 1.3 Park Water's Service Area

Park Water Company, originally named the Los Nietos Water Company, was formed in the post-Great Depression era for the purpose of providing water to the residents east of the Los Angeles River, north and south of Rosecrans. In 1937, this water company became incorporated as Park Water Company. Over the years, Park's service area continued to grow, and by the 1960s, Park had over 42,000 service connections. Today Park has approximately 27,000 service connections, and owns two additional water companies with an additional 44,200 service connections.

Park's service area is divided into three non-contiguous water systems including the Compton/Willowbrook Water System, the Lynwood/Rancho Dominguez Water System and the Bellflower/Norwalk Water System. These water systems are shown on the Service Area Map (Figure 1-1).

#### 1.3.1 Other Agencies

- **Metropolitan Water District of Southern California**  
MWD is a wholesaler of water, and supplies water to most of southern California by obtaining water from the Colorado River and from the State Water Project (SWP) in northern California.
- **Central Basin Municipal Water District**  
CBMWD is a member agency of MWD that wheels MWD water to a specific area of Southern California.
- **Water Replenishment District of Southern California**  
WRD protects and manages the groundwater resources of the Central and West Coast groundwater basins of south Los Angeles County.

### 1.4 Climate

The climate in Park's service area is generally warm and dry in the summer and cool in the winters, typical of a Mediterranean climate. The average temperature is 74 degrees Fahrenheit. Average rainfall is about 12 inches per year. The average evapotranspiration (ET<sub>o</sub>) in the region is 46.3 inches per year (Table 1-3).







**TABLE 1-3  
CLIMATE DATA FOR THE PARK WATER COMPANY**

	Jan	Feb	Mar	Apr	May	Jun
Standard Monthly Average ETo <sup>(a)</sup>	1.65	2.15	3.59	4.77	5.12	5.71
Average Rainfall (inches) <sup>(b)</sup>	2.5	2.5	2.0	0.7	0.3	0.0
Average Max. Temperature (Fahrenheit) <sup>(b)</sup>	66	67	68	71	74	77

	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Standard Monthly Average ETo <sup>(a)</sup>	5.93	5.91	4.39	3.22	2.18	1.68	46.30
Average Rainfall (inches) <sup>(b)</sup>	0.0	0.1	0.3	0.3	1.7	1.7	12.1
Average Max. Temperature (Fahrenheit) <sup>(b)</sup>	82	84	82	78	72	67	74

**Notes:**

(a) ETo (evapotranspiration) data provided for Long Beach region, <http://www.cimis.water.ca.gov/cimis/welcome.jsp>

(b) Average weather for Downey, CA, <http://countrystudies.us/united-states/weather/California/downey.htm>

## 1.5 Potential Effects of Climate Change

A topic of growing concern for water planners and managers is climate change and the potential impacts it could have on California's future water supplies. DWR's California Water Plan Update 2009 considers how climate change may affect water availability, water use, water quality, and the ecosystem.<sup>1</sup>

Volume 1, Chapter 5 of the California Water Plan, "Managing an Uncertain Future," evaluated three different scenarios of future water demand based on alternative but plausible assumptions on population growth, land use changes, water conservation and climate change. Future updates will test different response packages, or combinations of resource management strategies, for each future scenario. These response packages help decision-makers, water managers, and planners develop integrated water management plans that provide for resources sustainability and investments in actions with more sustainable outcomes.

## 1.6 List of Abbreviations and Acronyms

The following abbreviations and acronyms are used in this report.

Act	California Urban Water Management Planning Act
AF	acre-feet
AFY	acre-feet per year
AMR	Automatic Meter Reading
AWWA	American Water Works Association
BMPs	Best Management Practices
CAT	Climate Action Team

<sup>1</sup> Final California Water Plan Update 2009 Integrated Water Management: Bulletin 160.

CBMWD	Central Basin Municipal Water District
CBO	Community-Based Organization
ccf	hundred cubic feet
CCR	Consumer Confidence Report
CDPH	California Department of Public Health
CII	Commercial, Industrial and Institutional
CPUC	California Public Utilities Commission
CRA	Colorado River Aqueduct
CUWCC	California Urban Water Conservation Council
DBP	Disinfection by-products
DMM	Demand Management Measures
DOF	California Department of Finance
DWR	California Department of Water Resources
EPA	Environmental Protection Agency
ETo	Evapotranspiration
GIS	Geographic Information System
gpcd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
HECW	High-Efficiency Clothes Washer
HET	High-Efficiency Toilet
IRP	Integrated Resource Plan
LACSD	Sanitation Districts of Los Angeles County
MAF	Million Acre-Feet
MARS	Member Agency Response System
MCL	Maximum Contaminant Level
MF	Multi-family
MGD	million gallons per day
mg/L	milligrams per liter
MOU	Memorandum of Understanding Regarding Water Conservation in California
MTBE	Methyl Tertiary Butyl Ether
MWD	Metropolitan Water District of Southern California
NDMA	N-Nitrosodimethylamine
ng/L	Nanograms per liter or parts per trillion



NL	Notification Level
NPDES	National Pollutant Discharge Elimination System
Park	Park Water Company
PPCP	Pharmaceutical and Personal Care Products
PCE	Tetrachloroethylene
Plan	Urban Water Management Plan 2010
QSA	Quantification Settlement Agreement
RWQCB	Regional Water Quality Control Board
SBX7-7	Water Conservation Bill of 2009
SF	Single Family
SWP	State Water Project
TDS	Total Dissolved Solids
TCE	Trichloroethylene
THM	Trihalomethane
µg/L	Micrograms per Liter
USGS	United States Geographical Survey
UWMP	Urban Water Management Plan
VOC	Volatile Organic Compound
WARN	California Water Agencies Response Network
WOC	Water Operations Center
WRD	Water Replenishment District of Southern California
WRP	Water Recycling Plant
WSDM	Water Surplus and Drought Management

## Section 2: Water Use

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This section describes historic and current water usage and the methodology used to project future demands within Park's service area. Water deliveries are divided into sources including imported water, groundwater, and recycled water. Water usage is divided into sectors such as residential, industrial, landscape, and other purposes. For this evaluation, existing land use data and new housing construction information were compiled from Park. This information was then compared to historical trends for new water service connections and customer water usage information.

### 2.1 Population

Park has a current service area population of approximately 128,193. To determine historic population estimates, Census Tract data from 1990 and 2000 were compared to Geographic Information System (GIS) data of the service area. This method provided a population estimate for those two years. The population for the years between 1990 and 2000 were linearly interpolated according to those two values. Population estimates and projections from 2001 to 2035 were calculated using a growth rate determined from Department of Finance (DOF) data. The population growth rate for the 25-year period covered by this Plan is shown in Table 2-1.

**TABLE 2-1  
POPULATION GROWTH RATES**

Period	Rate
2011-2020	0.646%
2021-2030	0.612%
2031-2035	0.480%

Table 2-2 provides historic and projected population estimates for Park's service area using these growth rates.

**TABLE 2-2  
HISTORIC AND PROJECTED POPULATION ESTIMATES**

Historic Population						Projected Population				
2005	2006	2007	2008	2009	2010	2015	2020	2025	2030	2035
123,683	124,585	125,487	126,389	127,291	128,193	132,458	136,722	141,027	145,331	148,850

### 2.2 Historic Water Use

#### 2.2.1 Historic Water Deliveries

Park currently serves approximately 27,131 potable water connections, all of which are metered accounts. In 2010 approximately 98.5 percent of the service connections were residential and commercial. Industrial, institutional, government and fire protection connections account for

1.5 percent of Park's total connections. Table 2-3 shows the number of service connections by user class for the last six years.

**TABLE 2-3  
HISTORIC SERVICE CONNECTIONS**

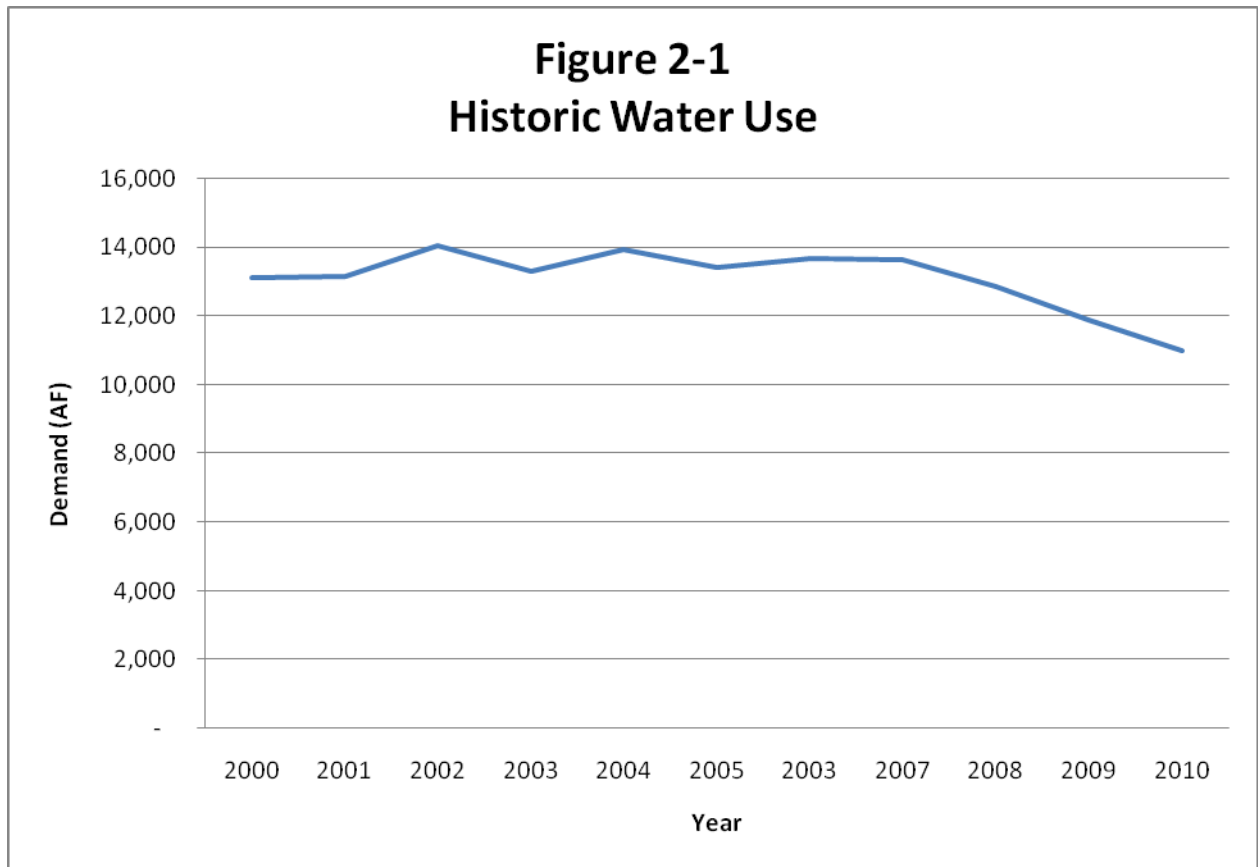
<b>Customer Class</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Single-family	25,069	25,127	25,047	24,974	25,009	25,021
Multi-family/Commercial	1,706	1,708	1,700	1,704	1,707	1,709
Industrial/Institutional/Government	193	193	198	197	199	199
Landscape	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0
Other	180	184	184	194	198	203
<b>Total</b>	<b>27,148</b>	<b>27,212</b>	<b>27,129</b>	<b>27,069</b>	<b>27,113</b>	<b>27,132</b>

Predicting future water supply requires accurate historic water use patterns and water usage records. Table 2-4 shows historic water use by customer class from 2005 to 2010.

**TABLE 2-4  
HISTORIC USE BY CUSTOMER CLASS (AF)**

<b>Customer Class</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Single-family	9,035	9,191	9,537	8,927	8,307	7,760
Multi-family/Commercial	3,051	2,995	3,014	2,932	2,725	2,502
Industrial/Institutional/Government	763	875	870	813	722	626
Landscape	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0
Other	181	179	134	82	88	19
<b>Total</b>	<b>13,029</b>	<b>13,239</b>	<b>13,554</b>	<b>12,753</b>	<b>11,841</b>	<b>10,907</b>

Figure 2-1 presents the historical deliveries by Park since 2000. The dramatic drop since 2007 is most likely caused by the economic downturn of recent years, as well as the combined effects of drought and conservation. The weather in 2010 had cooler temperatures throughout southern California, resulting in less demand for irrigation.



### 2.2.2 Historical Water Sales

In the past Park has sold water periodically to the City of Norwalk through an interconnection. Park supplied water regularly to Peerless Water Company until 2009.

### 2.2.3 Recycled Water Sales

Recycled water is an important source of water in southern California due to the cost of imported water supplies, a dry climate and high demand. CBMWD owns the Century Recycled Water System in the cities of Vernon, South Gate, Lynwood, Paramount, Lakewood, Bellflower, Downey and Norwalk. This system provides the Park service area with recycled water.

CBMWD's regional water recycling program, called the "Central Basin Water Recycling Project", is comprised of two distribution systems, the E. Thornton Ibbetson Century Water Recycling Project and the Esteban Torres Rio Hondo Water Recycling Project, along with three pumping stations and a reservoir. This system provided an average of 4,800 acre-feet per year of recycled water to more than 200 industrial, commercial and landscape irrigation sites for the last five years.

The amount of recycled water served to Park customers is shown in Table 2-5. Several commercial nurseries went out of business and Cal Trans reduced their purchases of recycled water for irrigation in the last few years, resulting in a decrease in recycled water demand.

**TABLE 2-5  
HISTORIC RECYCLED WATER DEMAND (AF)**

<b>Water Supply Sources</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>
Recycled Water	461	310	260

#### 2.2.4 Historical Other Water Uses

In the past, Park Water has not had water use related to saline barriers or groundwater recharge operations. Park monitors water used for system operations such as hydrant flushing, dead end flushing, flushing for water quality purposes, broken fire hydrants, main leaks etc. These amounts are shown in Table 2-6.

**TABLE 2-6  
HISTORIC USE BY PARK WATER FOR SYSTEM OPERATION (AF)**

<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
36	38	28	46	30	23

However, Park, like all water agencies does have some unaccounted-for water. Unaccounted-for water is the difference between the amount of water produced and the amount of water billed to customers. Over the last five years unaccounted for water has averaged less than one (1) percent of produced water within Park's system.

The percentage of unaccounted for water was estimated by comparing water production statistics to water sales statistics. Sources of unaccounted-for water include:

- Fire Hydrant Operations by the Fire Department - This represents the use of water for emergencies.
- Customer Meter Inaccuracies - Customer meters represent one of the main sources of unaccounted-for water as they tend to under-represent actual consumption in the water system.
- Leaky water lines - Leakage from water pipes is a common occurrence in water systems. A significant number of leaks remain undetected over long periods of time as they are very small; however these small leaks contribute to the overall unaccounted-for water.

Table 2-7 indicates unaccounted-for water loss within the distribution system.

**TABLE 2-7  
UNACCOUNTED-FOR WATER LOSSES**

<b>Year</b>	<b>Water Production (AF)</b>	<b>Water Sales and System Operation Use (AF)</b>	<b>Unaccounted-for Water (AF)</b>	<b>Unaccounted-for Water (Percent)</b>
2005	13,391	13,065	325	2.43
2006	13,667	13,277	390	2.86
2007	13,615	13,582	33	0.25
2008	12,827	12,799	28	0.22
2009	11,890	11,871	19	0.16
2010	10,979	10,930	49	0.44

Table 2-8 summarizes what the California Department of Water Resources (DWR) refers to as “other” water uses, besides metered deliveries and sales to other agencies.

**TABLE 2-8  
HISTORIC “OTHER” WATER USES (AF)**

<b>Water Use</b>	<b>2005</b>	<b>2010</b>
Saline Barriers	0	0
Groundwater Recharge	0	0
Conjunctive Use	0	0
Recycled Water <sup>(a)</sup>	310	260
System Operations and Losses <sup>(b)</sup>	361	72
<b>Total</b>	<b>671</b>	<b>332</b>

Notes:

(a) From Table 2-5.

(b) From Tables 2-6 and 2-7.

### 2.2.5 Total Historical Water Use

Table 2-9 presents information on all historic water uses for the years 2005 and 2010.

**TABLE 2-9  
HISTORIC TOTAL WATER USE (AF)**

<b>Water Use</b>	<b>2005</b>	<b>2010</b>
Total Water Deliveries (from Table 2-4)	13,029	10,907
Sales to Other Water Agencies	0	0
Additional water uses and losses (from Table 2-8)	671	332
<b>Total</b>	<b>13,700</b>	<b>11,239</b>

## 2.3 Existing and Targeted Per Capita Water Use

The Water Conservation Bill of 2009 (SBX7-7) is one of four policy bills enacted as part of the November 2009 Comprehensive Water Package (Special Session Policy Bills and Bond Summary). The Water Conservation Bill of 2009 provides the regulatory framework to support

the statewide reduction in urban per capita water use described in the *20 by 2020 Water Conservation Plan*. Consistent with SBX7-7, each water supplier must determine and report its existing baseline water consumption and establish future water use targets in gallons per capita per day (gpcd); reporting is to begin with the 2010 UWMP.

The two primary calculations required by SBX7-7 are:

- Base Daily Water Use calculation (average gpcd used in past years)
- Compliance Water Use Target (target gpcd in 2015 and 2020)

The Base Daily Water Use calculation is based on gross water use by an agency in each year and can be based on a ten-year average ending no earlier than 2004 and no later than 2010 or a 15-year average if ten percent of 2008 demand was met by recycled water. Base Daily Water Use must account for all water sent to retail customers, excluding:

- Recycled water
- Water sent to another water agency
- Water that went into storage

An urban retail water supplier must set a 2020 water use target (herein called the Compliance Water Use Target) and a 2015 interim target (herein called the Interim Water Use Target).

There are four methods for calculating the Compliance Water Use Target:

1. Eighty percent of the urban water supplier's baseline per capita daily water use
2. Per capita daily water use estimated using the sum of the following:
  - a. For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of DWR's 2016 report to the Legislature reviewing progress toward achieving the statewide 20 percent reduction target, this standard may be adjusted by the Legislature by statute.
  - b. For landscape irrigated through dedicated or residential meters or connections, water use efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in section 490 et seq. of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992.
  - c. For commercial, industrial, and institutional (CII) uses, a ten percent reduction in water use from the baseline CII water use by 2020.
3. Ninety-five percent of the applicable state hydrologic region target as stated in the state's April 30, 2009, draft *20 by 2020 Water Conservation Plan*. Park falls within the South Coast Hydrologic Region; the region target is 149 gpcd.
4. Reduce the 10 or 15-year Base Daily Per Capita Water Use a specific amount for different water sectors:
  - a. Indoor residential water use to be reduced by 15 gpcd or an amount determined by use of DWR's "Best Management Practice (BMP) Calculator".
  - b. A 20 percent savings on all unmetered uses.



- c. A 10 percent savings on baseline CII use.
- d. A 21.6 percent savings on current landscape and water loss uses.

The Interim Water Use Target is set as a halfway point between the Base Daily Water Use gpcd and the 2020 Compliance Water Use Target gpcd.

Finally, the selected Compliance Water Use Target must be compared against what DWR calls the "Maximum Allowable gpcd". The Maximum Allowable gpcd is based on 95 percent of a 5-year average base gross water use ending no earlier than 2003 and no later than 2010. The Maximum Allowable gpcd is used to determine whether a supplier's 2015 and 2020 per capita water use targets meet the minimum water use reduction of the SBX7-7 legislation. If an agency's Compliance Water Use Target is higher than the Maximum Allowable gpcd, the agency must instead use the Maximum Allowable gpcd as their target.

### 2.3.1 Base Daily Per Capita Water Use for SBx7-7 Reduction

Consistent with SBX7-7, the 2010 UWMPs must provide an estimate of Base Daily Per Capita Water Use. This estimate utilizes information on population as well as base gross water use. For the purposes of this UWMP, population was estimated as described in Section 2.1.

The UWMP Act allows urban water retailers to evaluate their base daily per capita water use by using a 10- or 15-year period. A 15-year base period within the range January 1, 1990 to December 31, 2010 is allowed if recycled water made up 10 percent or more of the 2008 retail water delivery. If recycled water did not make up 10 percent or more of the 2008 retail water delivery, then a retailer must use a 10-year base period within the range January 1, 1995 to December 31, 2010. Recycled water did not make up 10 percent of the 2008 delivery to the Park retail service areas, and for this reason, Base Daily Per Capita Water Use has been based on a 10-year period. In addition, urban retailers must report daily per capita water use for a 5-year period from January 1, 2003 to December 31, 2010. This 5-year base period is compared to the Target Based Daily Per Capita Water Use to determine the minimum water use reduction requirement (this is described in more detail in the following sections). Table 2-10 reports the data used to calculate the Base Daily Per Capita Water Use in gpcd, and the 10- and 5-year base periods.

**TABLE 2-10  
BASE DAILY PER CAPITA WATER USE**

<b>Base Period Year Sequence</b>	<b>Calendar Year</b>	<b>Distribution System Population</b>	<b>Annual System Gross Water Use (AF)</b>	<b>Annual Daily Per Capita Water Use (gpcd)</b>	<b>10-Year Average (gpcd)</b>	<b>5-Year Average (gpcd)</b>
1	1995	111,225	12,639.50	101		
2	1996	112,814	13,031.19	103		
3	1997	114,404	13,367.46	104		
4	1998	115,993	12,950.99	100		
5	1999	117,583	13,440.07	102		
6	2000	119,172	13,092.28	98		
7	2001	120,074	13,096.21	97		
8	2002	120,976	13,998.62	103		
9	2003	121,878	13,268.12	97		
10	2004	122,781	13,863.35	101	100.73	

<b>Base Period Year Sequence</b>	<b>Base Period Year Calendar Year</b>	<b>Distribution System Population</b>	<b>Annual System Gross Water Use (AF)</b>	<b>Annual Daily Per Capita Water Use (gpcd)</b>	<b>10-Year Average (gpcd)</b>	<b>5-Year Average (gpcd)</b>
11	2005	123,683	13,354.69	96	100.23	
12	2006	124,585	13,629.29	98	99.68	
13	2007	125,487	13,587.12	97	98.92	97.74
14	2008	126,389	12,781.72	90	97.98	96.36
15	2009	127,291	11,860.26	83	96.09	92.84
16	2010	128,193	10,905.43	76	93.88	88.75
<b>Base Period Selected</b>					<b>1998-2007</b>	<b>2003-2007</b>
<b>Base Daily Per Capita Water Use</b>					<b>99</b>	<b>98</b>

Park has selected the period 1998 to 2007 as the basis for the 10-Year Average Base Daily Per Capita Water Use, which is 99 gpcd. Park has selected the period 2003 to 2007 as the basis for the 5-year Average, which is 98 gpcd.

### 2.3.2 Compliance Water Use Targets for SBX7-7 Reduction

In addition to calculating base gross water use, SBX7-7 requires that a retail water supplier identify its water demand reduction targets. The methodologies for calculating demand reduction were described in Section 2.3. Park has selected Method 3 to calculate its 2020 Compliance Water Use Target and Interim Water Use Target.

Park falls within the South Coast Hydrologic Region which has an Urban Water Use Target of 149 gpcd. Ninety-five percent of this target is 142 gpcd. Since Park's 5-year Average Base Daily Per Capita Water Use is lower than 100 gpcd, no adjustments to the Urban Water Use Target are needed.

For the Interim Urban Water Use Target – the water use goal each water supplier is to achieve and report in their 2015 UWMP – the average of the Base Daily Per Capita Water Use and the Urban Water Use Target is normally used. For Park, since the Average Base Daily Water Use is already below 100 gpcd, the Interim Urban Water Use Target will remain as the Base Daily Per Capita Water Use of 98 gpcd.

## 2.4 Projected Water Use

### 2.4.1 Projected Water Demands

Historic population estimates were compared to the customer demands from 1995 to 2010 to determine historic per capita use. As discussed in the previous section, SBX7-7 calculations were used to provide a baseline and target per capita water use. Future demand estimates were then determined by multiplying the projected population by the base per capita water use:

$$\text{AFY} = \frac{\text{Population} \times 98 \text{ gpcd (target)} \times 365 \text{ days per year}}{325,851 \text{ gallons per AF}}$$

These calculations provided Park's projected future water demands are shown in Table 2-11. The anticipated total water demand in 2035 is approximately 16,340 AF. Demand estimates do not include reductions from demand management practices.

**TABLE 2-11  
PROJECTED WATER DEMANDS BY CUSTOMER TYPE (AF)**

	2015	2020	2025	2030	2035
Single Family Residential	10,180	10,510	10,840	11,170	11,440
Multi-Family /Commercial	3,320	3,430	3,540	3,650	3,730
Institutional/Industrial/Governmental	900	930	950	990	1,010
Landscape	0	0	0	0	0
Agricultural	0	0	0	0	0
Other	140	140	150	150	160
<b>Total Demand<sup>(a)</sup></b>	<b>14,540</b>	<b>15,010</b>	<b>15,480</b>	<b>15,950</b>	<b>16,340</b>

Notes:

(a) Actual demands may vary by approximately plus or minus 10 percent due to hydrological conditions.

#### 2.4.2 Projected Sales and Other Water Uses

Park does not anticipate any regular or single large sales to other agencies in the future. As in the past, Park does not anticipate future water use related to saline barriers, groundwater recharge operations or conjunctive use. Recycled water use is expected to remain stable. For the purpose of projections, unaccounted-for water is assumed to be approximately 2 percent. Table 2-12 shows projected sales and other water uses.

**TABLE 2-12  
PROJECTED SALES AND "OTHER" WATER USES (AF)**

<b>Water Use<sup>(a)</sup></b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Sales to Other Agencies	0	0	0	0	0
Saline Barriers	0	0	0	0	0
Groundwater Recharge	0	0	0	0	0
Conjunctive Use	0	0	0	0	0
Recycled Water	270	270	270	270	270
System Losses	290	300	310	320	330
<b>Total</b>	<b>560</b>	<b>570</b>	<b>580</b>	<b>590</b>	<b>600</b>

Notes:

(a) Any water accounted for in Table 2-11 is not included in this table.

#### 2.4.3 Total Projected Water Use

Table 2-13 presents information on all projected water uses for the years 2015 to 2035.

**TABLE 2-13  
TOTAL PROJECTED WATER USE (AF)**

<b>Water Use<sup>(a)</sup></b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Total Water Deliveries (from Table 2-11)	14,540	15,010	15,480	15,950	16,340
Sales to Other Water Agencies (from Table 2-12)	0	0	0	0	0
Additional water uses and losses (from Table 2-12)	560	570	580	590	600
<b>Total</b>	<b>15,100</b>	<b>15,580</b>	<b>16,060</b>	<b>16,540</b>	<b>16,940</b>

#### 2.4.4 Water Use Projections for Low Income Households

Senate Bill 1087 requires that water use projections of an UWMP include the projected water use for single-family and multi-family residential housing for lower income households as identified in the housing element of any city, county, or city and county in the service area of the supplier. Park's service area includes seven jurisdictions: the City of Artesia, the City of Bellflower, the City of Compton, the City of Lynwood, the City of Norwalk, and the City of Santa Fe Springs, and an unincorporated portion of Los Angeles County near Compton.

The Housing Element of each of these cities described the percentage of "extremely low", "very low" and "low" income households as a percentage of the total number of households. A weighted percentage was calculated as shown in Table 2-14.

**TABLE 2-14  
WEIGHTED PERCENTAGE OF LOW-INCOME HOUSEHOLDS**

<b>City</b>	<b>Total Number of Households from Housing Element</b>	<b>Weighted Percentage of Households</b>	<b>Percentage Low Income from Housing Element</b>	<b>Weighted Percentage of Low Income Households</b>
Artesia <sup>(a)</sup>	4,470	5%	53%	3%
Bellflower <sup>(b)</sup>	8,370	10%	80%	8%
Compton <sup>(c)</sup>	23,780	29%	58%	17%
Lynwood <sup>(d)</sup>	14,380	17%	40%	7%
Norwalk <sup>(e)</sup>	27,473	33%	40%	13%
Santa Fe Springs <sup>(f)</sup>	4,830	6%	38%	2%
<b>Weighted Percentage</b>				<b>50%</b>

**Notes:**

- (a) From City of Artesia General Plan
- (b) From City of Bellflower General Plan
- (c) From City of Compton General Plan
- (d) From County of Los Angeles General Plan and estimates of population/# of households
- (e) From County of Los Angeles General Plan and estimates of population/# of households
- (f) From City of Santa Fe Springs General Plan

The weighted average of 50 percent was used for projections of water demand for single-family and multi-family customers from very low and low-income households as shown in Table 2-15.

**TABLE 2-15  
PROJECTIONS OF FUTURE LOW-INCOME HOUSEHOLD WATER USE (AF)**

<b>Water Use<sup>(a)</sup></b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Estimated Very Low and Low-Income Household Water Use	6,742	6,962	7,181	7,401	7,576

Note:

(a) Assumes 50.0 percent of all future households in Park service area qualify as "very-low" or "low" income per the definition provided in Senate Bill 1087.

Further, Park will not deny nor condition approval of water services, nor reduce the amount of services applied for by a proposed development that includes housing units affordable to lower income households unless one of the following occurs:

- Park specifically finds that it does not have sufficient water supply;
- Park is subject to a compliance order issued by the California Department of Public Health (CDPH) that prohibits new water connections; or
- The applicant has failed to agree to reasonable terms and conditions relating to the provision of services.

#### 2.4.5 Other Factors Affecting Water Usage

Two other factors that affect water usage are weather and conservation practices. Historically, when the weather is hot and dry, water usage increases. The amount of increase varies according to the number of consecutive years of hot, dry weather and the conservation activities imposed. During cool, wet years, historical water usage has decreased, reflecting less water usage for exterior landscaping. These factors are discussed in more detail in the following subsections.

##### 2.4.5.1 Weather Effects on Water Usage

California faces the prospect of significant water management challenges due to a variety of issues including population growth, regulatory restrictions and climate change. Climate change is of special concern because of the range of possibilities and their potential impacts on essential operations, particularly operations of the SWP. The most likely scenarios involve increased temperatures, which will reduce the Sierra Nevada snowpack and shift more runoff to winter months, and accelerated sea level rise. These changes can cause major problems for the maintenance of the present water export system since water supplies are conveyed through the fragile levee system of the Sacramento-San Joaquin Delta. The other much-discussed climate scenario or impact is an increase in precipitation variability, with more extreme drought and flood events posing additional challenges to water managers around the west<sup>2</sup>. The Colorado River Basin has experienced severe multi-year droughts, most recently in the mid-1990s.

<sup>2</sup> Final California Water Plan Update 2009 Integrated Water Management: Bulletin 160.

#### **2.4.5.2 Conservation Effects on Water Usage**

In recent years, water conservation has become an increasingly important factor in water supply planning in California. Since the 2005 UWMP, there have been a number of regulatory changes related to conservation including new standards for plumbing fixtures, a state universal retrofit ordinance, new Green Building standards, demand reduction goals and more. In addition, the California Plumbing Code has instituted requirements for new construction that mandate the installation of ultra low-flow toilets and low-flow showerheads.

Residential, commercial, and industrial usage can be expected to decrease as a result of the implementation of more aggressive water conservation practices. In southern California, the greatest opportunity for conservation is in developing greater efficiency and reduction in landscape irrigation. The irrigation demand can typically represent as much as 70 percent of the water demand for residential customers depending on lot size and amount of irrigated turf and plants. Conservation efforts will increasingly target this component of water demand. Section 7 discusses Demand Management Measures.

## Section 3: Water Resources

This section describes the water resources available to Park for the 25-year period covered by the Plan. These are summarized in Table 3-1 and discussed in more detail below. Both currently available and planned supplies are discussed.

**TABLE 3-1  
SUMMARY OF CURRENT AND PROJECTED WATER SUPPLIES**

Water Supply Sources	Supply (AF)					
	2010	2015	2020	2025	2030	2035
<i>Existing Supplies</i>						
Imported Water	8,620	11,430	11,910	12,390	12,870	13,270
Groundwater	2,359	3,400	3,400	3,400	3,400	3,400
Recycled Water	260	270	270	270	270	270
<b>Total Existing Supplies</b>	<b>11,239</b>	<b>15,100</b>	<b>15,580</b>	<b>16,060</b>	<b>16,540</b>	<b>16,940</b>
<i>Planned Supplies</i>						
Potable Water Projects	0	0	0	0	0	0
<b>Total Planned Supplies</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Estimated Supplies</b>	<b>11,239</b>	<b>15,100</b>	<b>15,580</b>	<b>16,060</b>	<b>16,540</b>	<b>16,940</b>

### 3.1 Wholesale (Imported) Water Supplies

Imported water supplies are provided by CBMWD, a MWD member agency. MWD acquires water from the Colorado River and the SWP and distributes treated and untreated water directly to its 26 member agencies. MWD was established to develop an imported water supply from the Colorado River by constructing and operating the Colorado River Aqueduct (CRA), which has a capacity of 1.2 million acre-feet (MAF). The CRA impounds water from the Colorado River at Lake Havasu on the California-Arizona border west across the Mojave and Colorado deserts to the east side of the Santa Ana Mountains. It is one of the primary sources of drinking water for southern California. The CRA system is composed of two reservoirs, five pumping stations, 63 miles of canals, 92 miles of tunnels, and 84 miles of buried conduit and siphons. Average annual throughput is 1,200,000 acre-feet.

The SWP is the largest state-built, multi-purpose water project in the country. It was authorized by the California State Legislature in 1959, with the construction of most initial facilities completed by 1973. Today, the SWP includes 34 storage facilities, reservoirs and lakes, 20 pumping plants, 4 pumping-generating plants, 5 hydro-electric plants and approximately 700 miles of aqueducts and pipelines. The primary water source for the SWP is the Feather River, a tributary of the Sacramento River. Storage released from Oroville Dam on the Feather River flows down natural river channels to the Sacramento-San Joaquin River Delta (Delta). While some SWP supplies are pumped from the northern Delta into the North Bay Aqueduct, the vast majority of SWP supplies are pumped from the southern Delta into the 444-mile-long California Aqueduct. The California Aqueduct conveys water along the west side of the San Joaquin Valley to Edmonston Pumping Plant, where water is pumped over the Tehachapi Mountains and the aqueduct then divides into the East and West Branches.



CBMWD was established in 1952 by a vote of the people to protect the Central Basin from over-pumping. It was realized pumping would have to be curtailed and the region would require the importation of water. In 1954 CBMWD joined MWD to purchase wholesale imported water from the Colorado River and the SWP and sell it to local water agencies, both public and private.

CBMWD has a ten-year purchase order allocation from MWD for Tier 1 supply. CBMWD's projected supply of imported water from their Draft 2010 Urban Water Management Plan is shown in Table 3-2.

**TABLE 3-2  
CBMWD PROJECTED IMPORTED WATER SUPPLIES**

Water Supply Sources	Supply (AF)					
	2010	2015	2020	2025	2030	2035
Imported Water	72,360	72,360	72,360	72,360	72,360	72,360

Park utilizes six (6) imported water connections to MWD's system for water supply. The characteristics of these connections are shown in Table 3-3.

**TABLE 3-3  
PARK WATER COMPANY IMPORTED WATER CONNECTIONS**

Service Area	Connection Number	Capacity (cfs)
Compton/Willowbrook	CB-9	12.5
Compton/Willowbrook	CB-50	10.0
Lynwood/Rancho Dominguez	CB-25	12.5
Bellflower/Norwalk	CB-26	15.0
Bellflower/Norwalk	CB-27	12.5
Bellflower/Norwalk	CB-53	12.5
<b>Total Capacity</b>		<b>75.0</b>

Source: Park Water Company UWMP, 2005

Park has a 5-Year Agreement with CBMWD effective January 1, 2008 for the purchase of water. Park has agreed to purchase **43,263 AF** from CBMWD **over the five year period**. A copy of the Purchase Order is included in Appendix C. The imported water supply projected to be available to Park in average/normal years is shown in Table 3-4.

**TABLE 3-4  
PROJECTED SUPPLY OF IMPORTED WATER TO PARK FOR  
AVERAGE/NORMAL YEARS (AF)**

Source	2015	2020	2025	2030	2035
CBMWD	11,430	11,910	12,390	12,870	13,270

### 3.2 Groundwater

This section presents information about Park's groundwater supplies. Park currently owns 2.3 AF of groundwater rights and leases approximately 2,500 AF per year for its present

pumping program. Park plans to increase its purchases of groundwater in future years and reduce its purchases of imported water.

### 3.2.1 Central Groundwater Basin

The sole source of local groundwater for Park's water supply is the Central Groundwater Basin (Basin). This Basin, made up of several larger aquifers, occupies a large portion of the southeastern part of the Coastal Plain of Los Angeles County. It has a total storage capacity of 13,800,000 AF. The Basin is bounded on the north by the La Brea high surface divide and on the northeast and east by emergent less permeable tertiary rocks of the Elysian, Repetto, Merced and Puente Hills. The southeast boundary follows Coyote Creek. The southwest boundary is formed by the Newport Inglewood fault system and the associated folded rocks of the Newport Inglewood uplift. The Los Angeles and San Gabriel Rivers drain inland watersheds and pass across the surface of the Basin on their way to the Pacific Ocean.

Throughout the Basin, groundwater occurs in Holocene and Pleistocene age sediments at relatively shallow depths. The Basin is divided into two forebays and two pressure areas: the Los Angeles forebay, the Montebello forebay, the Whittier pressure area, and the Central Basin pressure area. Both forebays have unconfined groundwater conditions and interconnected aquifers that extend 1,600 feet below the surface and provide recharge for the Basin aquifer system. The Whittier pressure area contains up to 1,000 feet depth of freshwater-bearing sediments. The Central Basin pressure area contains many aquifers of permeable sands and gravels separated by semi-permeable to impermeable sandy clay to clay, that extend to about 2,200 feet below the ground surface.

### 3.2.2 Adjudication

Groundwater in the Basin was adjudicated to protect the underground water supply within the Basin. Prior to adjudication, annual pumping rates reached levels as high as 292,000 AF. In the early 1960's, the County of Los Angeles Superior Court limited the amount of pumping that could occur because the groundwater levels were declining, causing seawater to intrude into the coastal aquifers. The Basin adjudicated rights were set at 271,650 AFY. The adjudication judgment, however, set a lower Allowed Pumping Allocation of 217,367 AFY to impose stricter control. The adjudicated pumping amounts were set higher than the natural replenishment of groundwater, causing annual overdrafts.

Within CBMWD's service area, adjudicated pumping rights available totaled 163,960 AF and are allocated, not only to water retail agencies but also nurseries, businesses, cemeteries and private entities. Shown in Table 3-5 are all of the water retailers' adjudicated groundwater rights in CBMWD's service area for 2009-10.

**TABLE 3-5  
GROUNDWATER PUMPING RIGHTS 2009-10 (AF)**

<b>Central Basin Retail Agencies</b>	<b>Adjudicated Pumping Rights in Central Basin</b>
Bellflower-Somerset MWC	4,313
California Water Service Company- East LA	11,774
California Water Service Company- Commerce	5,081
City of Bell Gardens	1,914
City of Cerritos	4,680
City of Downey	16,554
City of Huntington Park	3,853
City of Lakewood	9,432
City of Lynwood	5,337
City of Montebello	387
City of Norwalk	1,773
City of Paramount	5,883
City of Santa Fe Springs	4,036
City of Signal Hill	2,022
City of South Gate	11,183
City of Vernon	8,039
County LA- Rancho Los Amigos	490
Golden State Water Company	16,439
La Habra Heights County Water District	2,596
Maywood Mutual Water Company No.1	741
Maywood Mutual Water Company No.2	912
Maywood Mutual Water Company No.3	1,407
Orchard Dale Water District	1,107
Park Water Company	2
San Gabriel Valley Water Company	2,565
Suburban Water System	3,721
Walnut Park Mutual Water Company	996
Other Agencies <sup>(a)</sup>	90,130
<b>Total</b>	<b>217,367</b>

Source: CBMWD Draft 2010 UWMP

Note: (a) Other agencies include Groundwater Only Retail Water Agencies, Agencies outside CBMWD Service Area, and Non-Retail Water Agencies.

A copy of the court order detailing Park's legal right to pump groundwater is included on compact disc in Appendix D. The judgment allows water users to carryover any unused water rights up to 20 percent of their water right as well as extract up to 10 percent beyond their allowable pumping rights within a given year.

The replenishment of the groundwater basin is managed by the Water Replenishment District of Southern California (WRD), a responsibility vested by the Water Replenishment Act. Part of the WRD's role is also to protect the quality of the groundwater supplies which approximately 3.5 million residents and water users rely upon. WRD is enabled under the California Water Code to purchase and recharge additional water to make up any overdraft, which is known as artificial replenishment. WRD has the authority to levy a replenishment assessment on all pumping within its boundaries to raise monies necessary to purchase the artificial replenishment

water and fund projects and programs necessary for replenishment and groundwater quality activities. Additional discussion regarding groundwater replenishment can be found in Section 3.2.4.

### 3.2.3 Groundwater Production

Groundwater production in the Basin is regulated by the DWR, acting as Watermaster, and WRD. In 2010, 174,318 AF of groundwater was produced from the Central Basin. Groundwater supply met approximately 71 percent of the water demand for agencies within the CBMWD in 2010. The Central and West Coast groundwater basins are in an overdraft condition; however, the groundwater levels and amount of overdraft fluctuate with time. WRD continually monitors groundwater level trends. WRD's 2011 Engineering Survey and Report discusses groundwater levels within the basins. WRD estimates that the annual overdraft for both basins during water year 2009/2010 was 80,800 AF. WRD or others purchased a total of 74,705 AF of recharge water. The difference between inflows (natural and artificial) and outflows was 3,290 AF, which resulted in a slight increase in storage in 2010/2011. The accumulated overdraft at the end of the water year 2010/2011 was determined to be 703,600 AF for both basins.

Frequently Park pumps in excess of its adjudicated water right of 2.3 AF due to the ability to lease water rights from other purveyors. Park's groundwater production was fairly consistent from 2005 through 2007. A slight increase was seen in 2008 and another substantial increase in 2009. The total amount of groundwater pumped by Park in the past six years is shown in Table 3-6.

**TABLE 3-6  
HISTORIC GROUNDWATER PRODUCTION**

<b>Year</b>	<b>Groundwater (AF)</b>
2005	1,509
2006	1,501
2007	1,479
2008	1,678
2009	2,301
2010	2,359

Groundwater is currently produced by Park from 11 operating wells (six active, five standby) that vary in depth from 270 feet to 1,052 feet. Groundwater well production varies from 192 gpm to 1,159 gpm, with a total system design capacity of approximately 9,534 gpm between active and standby wells, as shown in Table 3-7.

A new coagulation-filtration treatment facility at Well 9D to remove iron, manganese and small amounts of naturally-occurring arsenic will begin construction this summer. This system is expected to be operational in June 2012. A new well in the Compton West system (Well 19C) is expected to start production in summer 2012.

**TABLE 3-7  
PARK WATER COMPANY GROUNDWATER WELLS**

<b>Well No.</b>	<b>Water System</b>	<b>Depth (feet)</b>	<b>Design Flow (gpm)</b>
<i>Active Wells</i>			
4B	Lynwood/Compton East	422	823
12B	Compton West	270	192
28B	Bellflower/Norwalk	644	1,116
40D	Bellflower/Norwalk	606	788
41A	Bellflower/Norwalk	527	846
46C	Bellflower/Norwalk	728	1,159
		<i>Subtotal</i>	<i>4,924</i>
<i>Standby Wells</i>			
6E	Bellflower/Norwalk	270	550
13C	Compton West	495	890
29H	Bellflower/Norwalk	462	600
29K	Bellflower/Norwalk	786	750
40B	Bellflower/Norwalk	1,052	620
9D	Lynwood/Compton East <sup>(a)</sup>	600	1,200
		<i>Subtotal</i>	<i>4,610</i>
<i>Future Well</i>			
19C	Compton West <sup>(b)</sup>	830	1,750
		<i>Subtotal</i>	<i>1,750</i>
		<b>Total</b>	<b>11,284</b>

**Notes:**

(a) Treatment will be added to enable this well to become active in June 2012

(b) On line summer 2012

### 3.2.4 Groundwater Replenishment

WRD relies on artificial replenishment to replace the annual overdraft in the groundwater basin. In addition to stormwater capture and infiltration, the various methods of replenishment include spreading, injection, and in-lieu replenishment water.

- Spreading**  
 Groundwater recharge of storm water, imported water from MWD, and recycled water takes place along the spreading grounds adjacent to the Rio Hondo and San Gabriel River and the Whittier Narrows Reservoir.
- Injection**  
 WRD also recharges the groundwater by injecting water into the Basin to prevent seawater intrusion. A barrier is formed by the injecting treated water from MWD and highly treated recycled water in wells along the Alamitos Gap.
- In-lieu Replenishment Water**  
 The in-lieu program allows the natural recharge of the Basin by offsetting groundwater production with the use of imported water. The reduction in pumping allows the basin to recharge naturally.

WRD's 2011 Engineering Survey and Report discusses WRD's intent to recharge the basins with 112,903 AF of imported and recycled water in water year 2010-11.

### 3.3 Recycled Water

In response to the increasing demands for water, limitations on imported water supplies and the threat of drought, CBMWD has developed a regional water recycling program in which Park participates. The program is comprised of two distribution systems – the E. Thornton Ibbetson Century Water Recycling Project and the Esteban E. Torres Rio Hondo Water Recycling Project – with 50 miles of pipeline, two pumping stations, and three booster pump stations. The Ibbetson Project and Torres Project are interconnected and operate as one recycled water supply system.

The combined projects are referred to as the Central Basin Water Recycling Project. The Central Basin Water Recycling Project delivered an average of 4,800 AF of recycled water to more than 200 industrial, commercial and landscape irrigation sites over the last five years. In 2010, Park provided 260 AF of recycled water and distributed it to the 28 users within Park's service area. Park's use of recycled water augments valuable groundwater and imported water within the area.

### 3.4 Transfers, Exchanges and Groundwater Banking Programs

Since Park owns 2.3 AF of groundwater rights, it often enters into lease agreements with other local pumpers for additional groundwater supplies. Outside of groundwater leases, Park has not entered into any agreements for the transfer or exchange of water. However, MWD has been active in securing water transfers and exchanges for both the SWP and the Colorado River sources of supply.

### 3.5 Total Anticipated Water Supply

The total anticipated water supply for Park from imported water, groundwater and recycled water is shown in Table 3-8.

**TABLE 3-8  
TOTAL PROJECTED WATER SUPPLIES (AF)**

<b>Water Supply Sources</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Imported Water	11,430	11,910	12,390	12,870	13,270
Groundwater	3,400	3,400	3,400	3,400	3,400
Recycled Water	270	270	270	270	270
Transfers/Exchanges/GW Banking Programs	0	0	0	0	0
<b>Total</b>	<b>15,100</b>	<b>15,580</b>	<b>16,060</b>	<b>16,540</b>	<b>16,940</b>

### 3.6 Planned Water Supply Projects and Programs

Park continually reviews practices that will provide its customers with adequate and reliable supplies. Trained staff continues to ensure the water quality is safe and the water supply will meet present and future needs in an environmentally and economically responsible manner. Park consistently coordinates its long-term water shortage planning with CBMWD and WRD.

Water use efficiency measures have the potential to reduce overall demand. The projects that have been identified to improve Park's water supply reliability and enhance the operations of Park's facilities include conservation measures, replacement of water meters, fire hydrants, valves, and pipelines, and improvement projects on water supply wells.

Two groundwater wells (Well 9D and Well 19C) are expected to become active in the summer of 2012. Construction of another new well is planned for 2014. This new well will replace an old well that has lost production capacity over time and cannot benefit from rehabilitation. The new well will provide additional reliability and capacity to Park's water system.

### 3.7 Desalinated Water

The California UWMP Act requires a discussion of potential opportunities for use of desalinated water (Water Code Section 10631[i]). Currently, there are no identified Park projects for desalination of seawater or impaired groundwater. However, from a regional perspective, desalination projects within the region would benefit Park as they would make imported supplies available to meet demands.

Because Park's service area is not in a coastal area, it is neither practical nor economically feasible for Park to implement a seawater desalination program. However, Park could provide financial assistance to MWD, other SWP contractors, or their member agencies in the construction of their seawater desalination facilities in exchange for SWP supplies.

Park has been following existing and proposed seawater desalination projects along California's coast. Table 3-9 provides a summary of the status of several of California's municipal/domestic seawater desalination facilities.

As shown Table 3-9, most of the existing and proposed seawater desalination facilities are/or would be operated by agencies that are not SWP contractors. However, in these cases as described above, an exchange for imported water deliveries would most likely involve a third party (SWP contractor), CBMWD and Park.



**TABLE 3-9  
EXISTING AND PROPOSED SEAWATER DESALINATION FACILITIES ALONG THE  
CALIFORNIA COAST**

<b>Project</b>	<b>Member Agency Service Area</b>	<b>AFY</b>	<b>Status</b>
Long Beach Seawater Desalination Project	Long Beach Water Department	10,000	Pilot study
South Orange Coastal Ocean Desalination Project	Municipal Water District of Orange County	16,000-28,000	Pilot study
Carlsbad Seawater Desalination Project	San Diego County Water Authority	56,000	Permitting
West Basin Seawater Desalination Project	West Basin Municipal Water District	20,000	Pilot study
Huntington Beach Seawater Desalination Project	Municipal Water District of Orange County	56,000	Permitting
Camp Pendleton Seawater Desalination Project	San Diego County Water Authority	56,000 to 168,000	Planning
Rosarito Beach Seawater Desalination Feasibility Study	San Diego County Water Authority	28,000 to 56,000	Feasibility study
<b>Total AFY</b>		<b>102,000-280,000</b>	

Source: MWD 2010 UWMP

## Section 4: Recycled Water

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This section of the Plan describes the existing and future recycled water opportunities available to the CBMWD and to Park's service area. The description includes estimates of potential supply and demand for 2015 to 2035 in five year increments.

### 4.1 Recycled Water Master Plan

Recycled water is acceptable for most non-potable water purposes such as irrigation and commercial and industrial processes. Although Park does not have a Recycled Water Master Plan, in 2008 CBMWD prepared a Recycled Water Master Plan to help identify all potential customers that could benefit from recycled water. The Recycled Water Master Plan was prepared in conjunction with various water purveyors and cities within CBMWD's service area, LACSD, and WRD. Table 4-1 provides a list of agencies participating in the Recycled Water Master Plan.

**TABLE 4-1  
PARTICIPATING AGENCIES**

<b>Participating Agencies</b>	<b>Role in Plan Development</b>
Park Water Company	Retail water purveyor
Central Basin Municipal Water District	Wholesale water purveyor
LACSD's Los Coyotes Reclamation Plant	Recycled water supplier
LACSD's San Jose Creek Reclamation Plant	Recycled water supplier

### 4.2 Potential Sources of Recycled Water

LACSD provides recycled water to CBMWD. LACSD operates one wastewater treatment plant and six water reclamation plants in the Los Angeles Basin. A total of approximately 457 MGD of effluent results from these combined systems. Approximately one-third of this total is available for municipal and industrial use. CBMWD purchases a portion of this recycled water from the Los Coyotes Water Recycling Plant (WRP) and San Jose Creek WRP, located just outside of their service area. Both of these facilities provide approximately 55 MGD of tertiary-treated (Title 22) water for distribution.

Park does not provide wastewater collection services within its service area. Instead, Park utilizes the services of LACSD to collect, treat, and dispose of wastewater. Wastewater from Park's service area is collected and treated at the Los Coyotes WRP and the Joint Water Pollution Control Plant in Carson. Municipal wastewater is generated in Park's service area from a combination of residential, commercial, and industrial sources. The quantities of wastewater generated are generally proportional to the population and the water used in the service area. It is estimated that customers within Park's service area generate wastewater based on 80 percent of water demand. As shown in Table 4-2, the wastewater generated within Park's service area is estimated through 2035. Wastewater treated at the Los Coyotes WRP is treated to California Department of Public Health's Title 22 recycled water standards.

**TABLE 4-2  
WASTEWATER COLLECTION AND TREATMENT WITHIN PARK'S SERVICE AREA**

	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Potable Water Demand (AF)	10,907	14,540	15,010	15,480	15,950	16,340
Estimated Wastewater Flow (AF) (80 percent of potable water demand)	8,725	11,632	12,008	12,384	12,760	13,072

#### 4.2.1 Existing Facilities

The two reclamation plants that provide recycled water to CBMWD are described below:

##### 1. San Jose Creek Water Reclamation Plant

The San Jose Creek WRP was built in the early 1970s as part of Sanitation District's of Los Angeles County's Joint Outfall System. The San Jose Creek WRP treats 71 million gallons per day (MGD) of wastewater and serves approximately one million residents. Approximately 41 MGD of recycled water is used at 17 different sites including the Montebello Forebay Spreading Grounds and other percolation basins for groundwater recharge and for the irrigation of parks, schools and greenbelts.

The San Jose Creek WRP final effluent meets the National Pollution Discharge Elimination System (NPDES) requirements for water quality.

##### 2. Los Coyotes Water Reclamation Plant

The Los Coyotes WRP treats 23 MGD of wastewater and serves approximately 370,000 residents. More than 5 MGD of the recycled water is used at over 200 sites including schools, golf courses, parks, nurseries and greenbelts for irrigation and at local companies for industrial uses such as carpet dyeing and concrete mixing.

#### 4.2.2 Planned Improvements and Expansions

To accommodate anticipated growth in the CBMWD service area by identifying all potential customers who would benefit from using recycled water, CBMWD prepared the Recycled Water Master Plan in 2008. This plan identifies the following projects (CBMWD, Draft 2010 UWMP):

- **Southeast Water Reliability Project (SWRP)**

In early 2010, CBMWD began construction on Phase 1 of the Southeast Water Reliability Project (SWRP) which consists of 6.2 miles of recycled water pipelines extending from the City of Pico Rivera to the City of Montebello. If Phase 2 is constructed, the recycled water system would extend to the City of Vernon and be hydraulically connected to the Rio Hondo and Century projects along the northern portion of the service area (which incidentally covered the southeast portion of Los Angeles County). This, in turn, would increase flow and pressure in many areas that were once inadequately served and provide recycled water to new customers in several cities. The cities that would benefit directly from this project include Pico Rivera, Montebello, Vernon and Los Angeles, and portions of unincorporated Los Angeles County, Upper San Gabriel Municipal Valley Water District and the San Gabriel Valley Water Company.

- **System Storage**

CBMWD is also planning to expand the system storage capacity by constructing a 3 MG storage tank, either in the hills of Montebello or in Pico Rivera at the site of the Rio Hondo Pump Station.

While these projects do not directly benefit Park's customers, they do increase the use of recycled water in the region, making imported water available for use.

### 4.3 Recycled Water Demand

In this section, current and potential recycled water users within Park's service area are discussed.

#### 4.3.1 Current Use

Park recycled water sales in 2010 totaled about 260 AF. Currently, recycled water is served to agriculture (nursery) and landscape customers. All recycled water is treated to tertiary levels and meets Title 22 requirements. It is estimated recycled water sold by Park to its customers will remain constant for many years. Park will continue to encourage large landscape water users, public authorities and others to consider using recycled water. The actual and projected uses of recycled water used within Park's service area are summarized in Table 4-3.

**TABLE 4-3  
ACTUAL AND PROJECTED RECYCLED WATER USE (AF)**

Type of Use	Actual 2010 Use	2015	2020	2025	2030	2035
Agriculture (nursery)	0	0	0	0	0	0
Landscape	260	270	270	270	270	270
Industrial	0	0	0	0	0	0
<b>Total</b>	<b>260</b>	<b>270</b>	<b>270</b>	<b>270</b>	<b>270</b>	<b>270</b>

Park's use of recycled water supplements groundwater and imported water within the service area.

#### 4.3.2 Potential Users

Potential recycled customers in Park's service area have been identified and converted to recycled water. No new future recycled water customers are anticipated for the Park service area.

#### 4.3.3 Potential Recycled Water Demand

Landscape and agricultural (landscape nurseries) recycled water uses will continue to be the leading users of recycled water in Park's service area. Regionally, CBMWD is pursuing other recycled water uses. CBMWD is constructing the Southeast Water Reliability Project. Although customers within Park's service area will not benefit directly from the Southeast Project, it will increase recycled water use in the region.

The total potential annual recycled water demand in Parks' service area that is practical to serve is approximately 270 AFY.

#### 4.3.4 Recycled Water Comparison

Table 4-4 compares the 2005 projections of recycled water use for 2010 with the actual recycled water use in 2010 within Park's service area.

**TABLE 4-4  
RECYCLED WATER USES - 2005 PROJECTION  
COMPARED WITH 2010 ACTUAL (AFY)**

<b>User Type</b>	<b>2005 Projection for 2010</b>	<b>2010 Actual Use</b>
Agriculture (nursery)	60	0
Landscape	400	260
Industrial	10	0
<b>Total</b>	<b>470</b>	<b>260</b>

#### 4.4 Methods to Encourage Recycled Water Use

Park works collaboratively with CBMWD to market the use of recycled water within its service area. CBMWD's marketing efforts have been successful in changing the perception of recycled water from merely a conservation tool with minimal application to a cost-effective business tool. The target customer is expanding from traditional irrigation users such as golf courses and parks to unconventional commercial and industrial users.

CBMWD encourages the use of recycled water by increased marketing efforts as well as providing financial incentives. Financial incentives include wholesaling recycled water at a rate lower than potable water and funding plumbing retrofits to utilize recycled water. Park's recycled water rate is set below potable water rates to encourage recycled water use.

CBMWD provides other financial incentives as well. Some potential recycled water users do not have the financial capability to pay for on-site plumbing retrofits necessary to accept recycled water. CBMWD advances funds for retrofit expenses and are subsequently reimbursed through monthly payments. The on-site facilities fees are amortized over a period of time up to ten years at CBMWD's cost of funds. Repayment is made using the differential between potable and recycled water rates such that the customer never pays more than the potable rate. Once the loan is repaid, the rate reverts to the current recycled rates.

#### 4.5 Optimization Plan

Currently, Park relies on and collaborates with CBMWD to market and optimize recycled water within the region. CBMWD is in the process of updating the 2008 Recycled Water Master Plan to capture changes in the industrial and commercial base within their service area.

Another aspect of optimizing recycled water use is participation in funding opportunities. CBMWD participates in MWD's Local Resources Program and federal and state funding programs for recycled water projects when available.

## Section 5: Water Quality

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The quality of any natural water is dynamic in nature. This is true for the SWP, Colorado River water, and local groundwater. During periods of intense rainfall or snowmelt, routes of surface water movement are changed; new constituents are mobilized and enter the water while other constituents are diluted or eliminated. The quality of water changes over the course of a year. These same basic principles apply to groundwater. Depending on water depth, groundwater will pass through different layers of rock and sediment and leach different materials from those strata. Water depth is a function of local rainfall, snowmelt, and artificial recharge in the Central Basin. During periods of drought, the mineral content of groundwater increases. Water quality is not a static feature of water, and these dynamic variables must be recognized.

As required by the Safe Drinking Water Act, which was reauthorized in 1996, Park provides annual Water Quality Reports to its customers, also known as Consumer Confidence Reports (CCR), for each of the three water systems: Bellflower/Norwalk, Lynwood/Rancho Dominguez, and Compton/Willowbrook. This mandate is governed by the U.S. Environmental Protection Agency (EPA) and the CDPH to inform customers of their drinking water quality. In accordance with the Safe Drinking Water Act, Park monitors a number of regulated and unregulated compounds in its water supply and as in years past, the water delivered to Park customers meets the standards required by the state and federal regulatory agencies.<sup>3</sup>

As mentioned previously, Park's source of water is from imported water supplies, local groundwater and recycled water. This section provides a general description of the quality of Park's water supplies. A discussion of potential water quality impacts on the reliability of these supplies is also provided.

### 5.1 Imported Water

Park receives imported water through CBMWD from MWD, which receives raw water from Northern California through the SWP and from the Colorado River Basin through the Colorado River Aqueduct. Perhaps the most important difference in quality between surface water and groundwater is the presence of microbes in surface water. Surface water is exposed to a variety of microbial contaminants while groundwater in general is not. As a result, MWD water is treated at one of three filtration plants - the Jensen Filtration Plant in Mission Hills (San Fernando Valley), the Diemer Filtration Plant in Yorba Linda, and the Weymouth Filtration Plant in San Dimas - before being delivered to Park.

MWD tests and treats its water for microbial, organic, inorganic, and radioactive contaminants as well as pesticides and herbicides. Protection of MWD's water system continues to be a top priority. In coordination with its 26 member public agencies, MWD added new security measures in 2001 and continues to upgrade and refine procedures. Changes have included an increase in the number of water quality tests conducted each year (more than 300,000) as well as contingency plans that coordinate with the Homeland Security Office's multicolored tiered risk alert system.<sup>4</sup> MWD also has one of the most advanced laboratories in the country where water quality staff performs tests, collects data, reviews results, prepares reports, and

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<sup>3</sup> Consumer Confidence Reports for Park Water Company, 2010/2011.

<sup>4</sup> MWD's website, [http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP\\_2010.pdf](http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf)

researches other treatment technologies. Although not required, MWD monitors and samples elements that are not regulated but have captured scientific and/or public interest. MWD has tested for chemicals such as perchlorate, methyl tertiary butyl ether (MTBE), and chromium VI among others. In 2007 MWD implemented a program to determine the occurrence of Pharmaceuticals and Personal Care Products (PPCPs) and other organic wastewater contaminants in MWD's treatment plant effluents and selected source water locations within the Colorado River and SWP watersheds.

Water quality is identified as a possible risk to MWD's future water supply reliability. Existing supplies could be threatened in the future because of contamination, more stringent water quality regulations, or the discovery of an unknown contaminant. Water quality issues could directly impact the amount of water supplies available to Park as shown in the following examples:

- If a groundwater basin becomes contaminated and cannot be used, more water will be required from other sources.
- Imported water from the Colorado River must be blended (mixed) with lower salinity water from the SWP. Higher salinity levels in the Colorado River would increase the proportion of SWP supplies required.
- High total dissolved solids (TDS) in water supplies leads to high TDS in wastewater, which increases the cost of recycled water, if additional treatment such as reverse osmosis is required.
- If diminished water quality causes a need for membrane treatment, the process typically results in losses of up to 15 percent of the water processed.
- Degradation of imported water supply quality could limit the use of local groundwater basins for storage.
- Changes in drinking water quality standards such as arsenic, chromium VI, radon, or perchlorate could increase demand on imported water supplies.

Because of these concerns, MWD has identified those water quality issues that are most concerning as follows:

- Salinity
- Perchlorate
- Total Organic Carbon and Bromide formation
- Nutrients
- Arsenic
- Uranium
- Chromium VI
- N-nitrosodimethylamine (NDMA)
- PPCPs



MWD has identified necessary water management strategies to minimize the impact of these contaminants on water supplies, as discussed in the following subsection. None of these contaminants affects water reliability in Park's service area.

### 5.1.1 Water Quality Programs

In addition to monitoring for and controlling specific identified chemicals in the SWP and Colorado River water supply, MWD is involved in a number of programs to protect the quality of its water supplies. Some of the programs and activities include:

- **Source Water Protection** – In accordance with California's Surface Water Treatment Rule, Title 22 of the California Code of Regulations, CDPH requires large utilities delivering surface water to complete a Watershed Sanitary Survey every five years to identify possible sources of drinking water contamination, evaluate source and treated water quality, and recommend watershed management activities that will protect and improve source water quality. The most recent sanitary surveys for the Colorado River and SWP sources were completed in 2005 and 2006.
- **Water Quality Exchanges** – MWD has implemented selective withdrawals from the Arvin-Edison storage program and exchanges with the Kern Water Bank to improve water quality. These programs were initially designed to provide dry-year supply reliability but can also be used to store SWP water during periods of better water quality. During periods of lower SWP water quality, the better quality stored water can be withdrawn to dilute with SWP water deliveries.
- **Water Supply Security** – In coordination with its member agencies, MWD added new security measures in 2001 and continues to upgrade and refine procedures. Changes have included an increase in the number of water quality tests conducted each year as well as contingency plans that coordinate with Homeland Security Office's risk alert system.

## 5.2 Groundwater

WRD actively monitors the Basin for water quality issues. WRD assists purveyors in its service area in meeting drinking water standards through its Cooperative Basin-Wide Title 22 Groundwater Quality Program. The program includes wellhead testing at approximately 80 groundwater wells, reservoir sample collecting, and water quality testing and reporting services.<sup>5</sup> WRD conducts a comprehensive Groundwater Quality Program to evaluate water quality compliance in production wells, monitoring wells, and recharge/injection areas.

As part of WRD's Regional Groundwater Monitoring Program, WRD collects groundwater samples twice a year from over 300 monitoring wells. The water quality data collected from these wells are used to assess ambient conditions of the Basin, monitor the effects of extraction, monitor the effectiveness of the seawater intrusion barriers, address poor water quality areas, and also provide early warning of emerging contaminants of concern. WRD supplements their sampling with information from production wells in order to broaden the coverage of the Basin.

<sup>5</sup> WRD Engineering Survey and Report, March 2011

WRD provides extensive information on groundwater quality in both its current Engineering and Survey Report (March 2011) and the Regional Groundwater Monitoring Report (February 2011). Both reports have a section devoted solely to groundwater quality management. The groundwater quality issues discussed by WRD include:

- Total Dissolved Solids (TDS)
- Iron
- Manganese
- Nitrate
- Chloride
- Trichloroethylene (TCE)
- Tetrachlorethylene (PCE)
- Arsenic
- Total Organic Carbon
- Perchlorate

None of the contaminants listed above impact the reliability of Park's groundwater supplies.

### 5.2.1 Water Quality Programs

CBMWD and WRD support and are involved in many programs that address water quality concerns of the groundwater basin. Some of the programs and activities include:

- WRD's Safe Drinking Water Program – This program promotes the treatment of contaminants at the wellhead for potable purposes. Currently, the program is focusing on Volatile Organic Compounds (VOCs) and provides financial assistance for the design and installation of wellhead treatment systems. This program also focuses on the secondary contaminants iron and manganese.
- CBMWD's Water Quality Protection Project – This project was developed to protect the Basin from TCE and PCE from migrating into the Central Basin from the San Gabriel Valley aquifer. The project includes two extraction wells and a treatment facility. Approximately 3,500 AFY of groundwater are treated at a site within the City of Pico Rivera.
- WRD's Groundwater Quality Program – This program monitors and evaluates the impacts of current and pending drinking regulations on the groundwater basin. Contaminants of concern such as perchlorate, NDMA, hexavalent chromium, and 1,4-dioxane are closely monitored.
- WRD's Water Augmentation Study – This study evaluates the feasibility of capturing more storm runoff in-lieu of discharge to surface waters.
- WRD's Central Basin Groundwater Contamination Study – WRD, in conjunction with the U.S. Geological Survey (USGS) is characterizing the threat of multiple contaminants moving to deeper potable water aquifers.

### 5.3 Water Quality Impacts on Reliability

The previous section summarized the general water quality issues of MWD's imported water and the Basin's groundwater supplies. The same water quality concerns apply to Park's water supply. Similar to MWD's watershed survey, Park prepared a Source Water Assessment of its drinking water sources in April 2003. The groundwater sources were found to be most vulnerable to possible contamination from landfills and dumps, irrigated crops, sewer collection systems, gas stations, dry cleaners, metal plating/finishing/fabricating shops, military installations, chemical/petroleum processing and storage facilities, and leaking underground storage tanks.<sup>6</sup> Park continues to monitor its groundwater wells for the first indication of problems as part of their water management strategy.

In 1999, Park drilled Well 9D. At the time, the water quality met the MCL for arsenic and manganese. However, with the new Federal MCLs for arsenic at 10 micrograms per liter ( $\mu\text{g/L}$ ), Well 9D does not meet the new standard effective January 2006. The most recent water quality monitoring from Well 9D shows a range of arsenic between 6.9 to 11  $\mu\text{g/L}$  with an average of 9.5  $\mu\text{g/L}$ . For manganese, the range is 30 to 55  $\mu\text{g/L}$  with an average of 44  $\mu\text{g/L}$ , averaging close to the secondary standard of 50  $\mu\text{g/L}$ . Because of these water quality concerns, Well 9D is on standby status and is not currently used as a water supply source.

Park is utilizing additional imported water to meet average day demand and Well 4B to meet peak water demand; however, due to hydraulic limitations of Well 4B, Park is unable to further increase groundwater supplies from this well to meet demands. To reduce demands on imported water supplies and increase reliability on local groundwater supplies, Park is currently constructing a wellhead treatment facility to reduce the levels of manganese and arsenic occurring in the water pumped from Well 9D. The installation of this treatment plant will allow Park to maximize local groundwater supply by pumping about 850 AFY (maximum flow of 1,200 gpm) from Well 9D. Park has qualified for a Proposition 50 grant to build a treatment plant at Well 9D.

Three of Park's standby wells tested positive for TCE, with one exceeding the MCL of 5  $\mu\text{g/L}$ . This particular well (13C in the Compton West system) had TCE levels first detected in May 2003, rapidly rose to the MCL by February 2005, and exceeded the MCL as time progressed. Well 13C is currently in standby mode, but TCE levels have decreased to less than one-fifth the MCL. Park will be exploring possibilities for returning this well back to service.

Four wells have detectable levels of VOCs, three with TCE as previously mentioned, two with PCE (one well has detected both), and one for 1,1-Dichloroethylene.

In 2002, four Park wells tested positive for 1,4-dioxane with concentrations between non-detect and 5.6  $\mu\text{g/L}$ . All four wells were within the Bellflower/Norwalk service area. 1,4-dioxane is a chemical used as an industrial stabilizer to enhance performance of solvents and personal care products in manufacturing processes. There is no MCL for 1,4-dioxane; however, CDPH established a Notification Level (NL) of 3  $\mu\text{g/L}$ . CDPH recommends that water supply sources in excess of 35  $\mu\text{g/L}$  of 1,4-dioxane be removed from service. Park's groundwater wells were not removed from service because of the low levels. In October 2010, CDPH lowered the NL to 1  $\mu\text{g/L}$  and the Response Level to 35  $\mu\text{g/L}$ . Park continues to monitor for this chemical and have found the concentrations to remain relatively stable since 2002.

<sup>6</sup> Park Water Company, Consumer Confidence Report, 2010/2011

Except for the occurrence of 1,4-dioxane and Well 9D arsenic and manganese, Park has not experienced any other significant water quality problems. Park is concerned about the potential for increasing levels of VOCs in the Basin as well as the potential lowering of the existing MCLs for TCE and PCE. Park has additional concerns about VOCs because of several plans being considered to use the Basin for conjunctive use (additional groundwater storage). This would be accomplished by spreading additional imported water and raising the groundwater level in the Basin. Raising groundwater levels has the potential to put water into the previously dry vadose zone<sup>7</sup> and mobilize contaminants like VOCs into the groundwater. Park will closely monitor this situation.

In the near future, EPA's Stage 2 regulation of the disinfection byproducts rule will be in effect. Stage 1 was implemented in 2002 and lowered the total trihalomethane (THM) maximum annual average concentration level in water supplies; Stage 2 will change compliance from a system-wide running annual average to a location running annual average, making it easier for utilities to fall out of compliance. The Park water supplies meet the requirements of Stage 1 and will be required to meet Stage 2 levels when they take effect in 2013. MWD is adding ozone treatment to their Diemer and Weymouth Filtration Plants as a primary disinfectant to reduce the levels of regulated disinfection byproducts (DBPs). Ozone is already in place at the Jensen Plant. This should assure Park's compliance with Stage 2 DBP Rule into the future.

Park does not anticipate any significant or immediate changes in its available water supplies due to water quality issues in part because of the mitigation actions undertaken by Park, MWD, CBMWD, and WRD as described earlier. Table 5-1 shows the current and expected water supply changes due to water quality in percentage change.

**TABLE 5-1  
CURRENT AND PROJECTED WATER SUPPLY CHANGES DUE TO  
WATER QUALITY IN PERCENTAGE CHANGE**

<b>Water Source</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Imported	0%	0%	0%	0%	0%
Groundwater	0%	0%	0%	0%	0%

<sup>7</sup> The mostly unsaturated zone between the soil surface and the permanent groundwater table.

## Section 6: Reliability Planning

The Act requires urban water suppliers to assess water supply reliability that compares total projected water used with the expected water supply over the next twenty years in five year increments. The Act also requires an assessment for a single dry year and multiple dry years. This section presents the reliability assessment for Park's service area.

Reliability is a measure of a water supplier's expected success in managing water shortages. The combination of demand management and supply augmentation options helps to reduce the frequency and severity of shortages.

Park and all southern California communities and water suppliers are facing increasing challenges in their role as stewards of water resources in the region. For a variety of reasons, the region faces a growing gap between its water demands and its firm water supplies. These reasons include: increased environmental regulations and continued population growth.

The reliability of Park's water supply is dependent on the reliability of both imported water supplies and local groundwater supplies. Recycled water provides only a small supplement to Park's existing supplies. Imported supplies are managed by MWD while local groundwater is managed by WRD. The recycled water supply is managed by CBMWD. The following subsections discuss the reliability of Park's water supply sources and the roles of each of these agencies, as well as the LACSD and the Regional Water Quality Control Board (RWQCB), their roles in water supply reliability, and the near- and long-term efforts in which they are involved to ensure future reliability of supplies to Park and the region as a whole. Table 6-1 shows the factors resulting in inconsistency of supply for Park's water supply sources.

**TABLE 6-1  
FACTORS RESULTING IN INCONSISTENCY OF SUPPLY**

Water Supply Sources	Limitation Quantification	Legal	Environmental	Water Quality	Climatic	Additional Information
Imported Water		X	X		X	Dependent on SWP and Colorado River deliveries.
Groundwater	X	X	X			Most groundwater is leased rights.
Recycled Water		X				Infrastructure is needed for expansion.

Each water supply source has its own reliability characteristics. In any given year, the variability in weather patterns around the state and the Colorado River Basin may affect the availability of supplies. For example, from 2006 through 2009, southern California experienced dry conditions in all three years with rainfall averages for the Central Basin ranging from 3.21 to 13.53 inches, with 2006 being the driest year. Park was able to provide sufficient water due to agreements with local agencies and an active basin management program for Central Basin. To ensure reliability, Park intends to increase their water reliability through conservation, increased groundwater pumping and recycling.

## 6.1 Reliability of Imported Water Supplies

Each SWP contractor's Water Supply Contract contains a Table A amount that identifies the maximum amount of water that a contractor may request. However, the amount of SWP water actually allocated to contractors each year is dependent on a number of factors that can vary significantly from year to year. The primary factors affecting SWP supply availability include hydrologic conditions in northern California, the amount of water in SWP storage reservoirs at the beginning of the year, regulatory and operational constraints, and the total amount of water requested by the contractors. The availability of SWP supplies to MWD and the other SWP contractors is generally less than their full Table A amounts in many years and can be significantly less in very dry years. DWR's SWP Delivery Reliability Report for 2009, issued in 2010, assists SWP contractors in assessing the reliability of the SWP component of their overall supplies. DWR provided these updated delivery reliability estimates to the SWP contractors for planning purposes. The most recent reports states that the reliability of this water is subject to biological demands and climate change.

Colorado River Aqueduct supplies can be severely affected by drought conditions. MWD's goal is to develop programs that maintain a full CRA during dry years. It is expected the ability to deliver a full CRA will also rely on storage facilities. Although not yet sufficient in the short-term to provide the full targeted CRA capacity, MWD has been successful in developing Colorado River programs to date, including the implementation of the Quantification Settlement Agreement (QSA). The QSA determines priority and quantity of rights for parties in California holding rights to Colorado River water. MWD also recently gained the ability to bank water in Lake Mead through the Intentionally Created Surplus Program. With the adoption of the QSA and the opportunity to store conserved water in Lake Mead, a firm foundation has been laid for developing future programs that will help meet the long-term CRA goals.

## 6.2 Reliability of Groundwater Supplies

The sole source of local groundwater for Park's water supply is the Central Groundwater Basin managed by the WRD. The Basin occupies a large portion of the southeastern part of the Coastal Plain of Los Angeles County with a total storage capacity of 13,800,000 AF. The amount of water that member agencies are allowed to pump is set annually, but the values remain fairly constant. Park's adjudicated pumping right for 2010 was 2.3 AFY. Frequently Park pumps in excess of its adjudicated water right through leasing water rights from other purveyors. In 2010, Park leased a total of 2,359 AF of groundwater rights.

Stormwater, imported water, and recycled water contribute to the recharge of the Central Basin. Stormwater recharge is affected by changes in the local hydrology and is highly limited to the dry climate of the region.

## 6.3 Reliability of Recycled Water Supplies

Recycled water supplies are considered an extremely reliable source of supply. Park's recycled water demand is much lower than the amount of recycled water generated in its service area. Projected recycled water use is not expected to increase above current deliveries of approximately 270 AFY for the foreseeable future. Park does not anticipate any issues with the reliability of recycled water to its customers.

## 6.4 Normal, Single-Dry and Multiple-Dry Year Planning

Park has a consistent water supply through imported water and groundwater, which is sufficient water to meet demands during normal, single-dry, and multiple-dry years. The following sections elaborate on the supplies available to Park.

In dry year conditions (single-dry year and multiple-dry year), the groundwater supply is assumed to remain 100 percent available because the long-term average of the groundwater basin includes dry periods, and any single- or multiple-dry year cycle does not impact the long-term yield of the basin.

### 6.4.1 Supply and Demand Comparisons

The available supplies and water demands for Park's service area were analyzed to assess the region's ability to satisfy demands during three scenarios: a normal water year, single-dry year, and multiple-dry years. The tables in this section present the supplies and demands for the various drought scenarios for the projected planning period of 2010 to 2035 in five-year increments. Table 6-2 presents the base years for the development of water year data. The base years are tied to the Draft 2010 CBMWD UWMP as this wholesaler is the primary source for supplying water to Park. Tables 6-4, 6-5, and 6-6 summarize, respectively, Normal Water Year, Single-Dry Water Year, and Multiple-Dry Year supplies.

**TABLE 6-2  
BASIS OF WATER YEAR DATA**

<b>Water Year Type</b>	<b>Base Years<sup>(a)</sup></b>
Average/Normal Water Year	2009
Single-Dry Water Year	2006
Multiple-Dry Water Years	2006-2008

Note: (a) Based on the Central Basin MWD 2010 UWMP using National Weather Service data to determine dry years in the Central Basin

The historical supply analysis showed that on average groundwater pumping decreases by 8 percent in single dry years and increases 7 percent in multiple dry years. Imported water increases by 11 percent in single dry years and 7 percent in multiple dry years. These changes were used to determine the historical supply reliability for single and multiple dry years as seen in Table 6-3. Supplies are projected to be approximately 14,000 to 16,000 AFY in average years and 14,000 to 17,000 AFY in dry years (Tables 6-4 through 6-6). The decrease is due to the percent deliveries projected from the SWP.



**TABLE 6-3  
SUPPLY RELIABILITY**

	Normal Water Year <sup>(a)</sup>	Single Dry Water Year	Multiple Dry Water Years			
			Year 1 <sup>(b)</sup>	Year 2	Year 3	Year 4
<b>Imported Water</b>	9,590	10,347	10,347	10,063	10,063	10,063
<b>Groundwater</b>	2,301	3,400	3,400	3,400	3,400	3,400
<b>Recycled Water</b>	291	270	270	270	270	270
<b>Total</b>	<b>12,181</b>	<b>14,017</b>	<b>14,017</b>	<b>13,733</b>	<b>13,733</b>	<b>13,733</b>
	<b>% of Normal</b>	<b>115%</b>	<b>115%</b>	<b>113%</b>	<b>113%</b>	<b>113%</b>

Notes:

(a) Normal water year is represented by the 2009 deliveries reported by Park.

(b) The first year of a multiple dry year was assumed to be the same as a single dry year.

#### 6.4.2 Normal Water Year

Table 6-4 summarizes Park's water supplies available to meet demands over the 25-year planning period during an average/normal year.

**TABLE 6-4  
SUPPLY FOR AVERAGE/NORMAL WATER YEARS**

Water Supply Sources	Supply (AF)				
	2015	2020	2025	2030	2035
Imported Water	10,870	11,340	11,810	12,280	12,670
Groundwater	3,400	3,400	3,400	3,400	3,400
Recycled Water	270	270	270	270	270
<b>Total</b>	<b>14,540</b>	<b>15,010</b>	<b>15,480</b>	<b>15,950</b>	<b>16,340</b>
<b>Total Adjusted Demand</b>	<b>14,540</b>	<b>15,010</b>	<b>15,480</b>	<b>15,950</b>	<b>16,340</b>
<b>Difference between Supply and Demand</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Difference as % of Supply</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Difference as % of Demand</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

#### 6.4.3 Single-Dry Year

The water supplies and demands for Park's service area over the 25-year planning period were analyzed in the event that a single-dry year occurs, similar to the drought that occurred in California in 2006. Based on the average change in supply for groundwater and imported water, an overall increase in demand of 2% was assumed for a single dry year. Table 6-5 summarizes the projected supplies available during a single-dry year. Groundwater and recycled water are expected to remain stable throughout the planning period. To meet increasing demand, additional imported water will be purchased to meet demand.

**TABLE 6-5  
SUPPLY FOR SINGLE DRY WATER YEARS**

<b>Water Supply Sources</b>	<b>Supply (AF)</b>				
	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Imported Water	11,161	11,640	12,120	12,599	12,997
Groundwater	3,400	3,400	3,400	3,400	3,400
Recycled Water	270	270	270	270	270
<b>Total Supply</b>	<b>14,831</b>	<b>15,310</b>	<b>15,790</b>	<b>16,269</b>	<b>16,667</b>
<b>Total Adjusted Demand</b>	<b>14,831</b>	<b>15,310</b>	<b>15,790</b>	<b>16,269</b>	<b>16,667</b>
<b>Difference between Supply and Demand</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Difference as % of Supply</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Difference as % of Demand</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

#### 6.4.4 Multiple-Dry Years

The water supplies and demands for Park's service area over the 25-year planning period were analyzed in the event that a four-year multiple-dry year event occurs, similar to the drought that occurred during the years 2006 to 2009. Based on the average change in supply for groundwater and imported water, an overall increase in demand of 7% was assumed for multiple dry years. Table 6-6 summarizes the projected supplies available during multiple-dry years. Groundwater and recycled water are expected to remain stable throughout the planning period. To meet increasing demand, additional imported water will be purchased to meet demand.

**TABLE 6-6  
SUPPLY FOR MULTIPLE DRY WATER YEARS**

<b>Water Supply Sources</b>	<b>Supply (AF)</b>				
	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Imported Water	11,888	12,391	12,894	13,397	13,814
Groundwater	3,400	3,400	3,400	3,400	3,400
Recycled Water	270	270	270	270	270
<b>Total</b>	<b>15,558</b>	<b>16,061</b>	<b>16,564</b>	<b>17,067</b>	<b>17,484</b>
<b>Total Adjusted Demand</b>	<b>15,558</b>	<b>16,061</b>	<b>16,564</b>	<b>17,067</b>	<b>17,484</b>
<b>Difference between Supply and Demand</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Difference as % of Supply</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Difference as % of Demand</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

#### 6.4.5 Summary of Comparisons

As shown in the analyses above, Park has sufficient supplies to meet demand in single dry and multiple dry years. Park will purchase additional imported water to meet the increasing demand. Currently in an average year, Park has sufficient supply to meet the demands.

## Section 7: Water Demand Management Measures

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This section describes the water Demand Management Measures (DMMs) implemented by Park Water Company.

### 7.1 Conservation Program Background

Park recognizes that conserving water is an integral component of a responsible water strategy and is committed to providing education, tools, and incentives to help its customers reduce the amount of water they use. Park is implementing programs locally as well as leveraging the conservation resources available through the Central Basin Municipal Water District, Water Replenishment District and the Metropolitan Water District of Southern California.

In 2006, Park became a signatory to the MOU of the CUWCC, establishing a firm commitment to the implementation of the BMPs or DMMs. Park developed a Conservation Action Plan in December 2006; the Plan has five major goals:

1. Develop a conservation program that fulfills Park's requirements as a signatory to the MOU.
2. Promote programs that enable residential customers to improve water use efficiency in a cost-effective manner.
3. Promote programs that encourage commercial, industrial, and institutional water users to implement water efficiency improvement programs in a cost-effective manner.
4. Promote efficient use of water through appropriate incentive/disincentive programs.
5. Provide appropriate educational and information programs to encourage conservation among all water uses within Park's service area.

Each of these goals is supported by specific objectives with measurable outcomes that are used to track progress. The plan is a living document and is updated to reflect changes to Park's service area, the BMPs, conservation programs, and available rebates among other things.

### 7.2 Implementation of DMMs/BMPs

Park is subject to the Urban Water Management Planning Act, AB1420 and SBX7-7 requirements, in addition to the commitment of compliance with the BMPs as a signatory to the MOU. The MOU and BMPs were revised by the CUWCC in 2008. The revised BMPs now contain a category of "Foundational BMPs" that signatories are expected to implement as a matter of their regular course of business. These include Utility Operations (metering, water loss control, pricing, conservation coordinator, wholesale agency assistance programs, and water waste ordinances) and Public Education (public outreach and school education programs). The new category of Foundational BMPs is a significant shift in the revised MOU. These revisions are reflected in the reporting database, starting with reporting year 2009.

Signatories to the urban MOU are allowed by Water Code Section 10631(j) to include their biennial CUWCC BMP reports in an UWMP to meet the requirements of the DMMs sections of the UWMP Act. Due to delays in the development and availability of the CUWCC's reporting database, Park has chosen to comply with the requirements of the Act by providing the information required by the DMMs in this section of the Plan instead of attaching the 2009 and 2010 BMP Reports. The following sections provide more detail on Park's conservation programs and compliance with the BMPs.

## 7.3 Foundational BMPs

### 7.3.1 Utility Operations

#### 7.3.1.1 Conservation Coordinator

Park has had a full-time conservation coordinator to manage BMP implementation and other water conservation implementation and planning activities since 2008.

#### 7.3.1.2 Water Waste Prohibition

Park operates under California Public Utilities Commission (CPUC)-approved rules that include Rule No. 14.1, the Water Conservation and Rationing Plan, and Rule 11, Discontinuance and Restoration of Service. The CPUC's methodology for water utilities to implement Water Conservation Plans is documented in Standard Practice U-40-W, "Instructions for Water Conservation, Rationing, and Service Connection Moratoria." Water shortage contingency plans must be approved by the CPUC prior to implementation. As stated in the Standard Practice U-40-W, the CPUC shall authorize mandatory conservation and rationing by approving Schedule No. 14.1, Mandatory Water Conservation and Rationing. Schedule No. 14.1 sets forth water use violation fines, charges for removal of flow restrictors, and the period during which mandatory conservation and rationing measures will be in effect.

Park's Rule No. 14.1, the Water Conservation and Rationing Plan took effect on 18 October 2008. This rule allows the utility to institute voluntary conservation measures, and if further reduction is needed, mandatory conservation measures. The rule specifies enforcement criteria and fines for violations.

Park's rule was implemented in conjunction with a CBMWD public outreach campaign called "Shut Your Tap." Through this campaign, 24 cities adopted mandatory water conservation ordinances in 2008 and 2009, including cities in Park's three discrete service areas (Norwalk, Bellflower, Lynwood, Artesia and Santa Fe Springs). It was also adopted by the County of Los Angeles on behalf of the unincorporated area served by Park. Each city's ordinance stipulates they are committed to participating in CBMWD's regional water conservation effort, and identifies specific water uses that are prohibited. Failure to comply with these provisions results in violation fees.

Park's Rule No. 20, Water Conservation, discourages the wasteful use of water and promotes the use of water saving devices. The rule is intended to, "...ensure that water resources available to the utility are put to a reasonable beneficial use and that the benefits of the utility's water supply and service extend to the largest number of persons."

Further, Park's Rule No. 11.B (3) prohibits the wasting of water. If negligent or wasteful use of water is occurring on a customer's premises, the utility may discontinue water service if these practices are not changed within five days of receiving written notice of the issue.

Park has no enforcement authority but works with the cities it serves to encourage and promote water efficiency. For example, Park's field staff patrols its service area for water wasters. Park then notifies the cities of chronic water wasters and works with them to address the situation.

#### **7.3.1.3 Water Loss Control**

Water loss is very low in the service area. Park conducts annual pre-screening system audits which calculate verifiable use as a percent of total production. For 2007 and 2008, these tests concluded that 97 and 98 percent of production were for verified uses, respectively and therefore, full-scale audits were not required. Between 2006 and 2010, water losses have not exceeded 3.1 percent (Table 2-7).

Consistent with the revised MOU, Park is implementing American Water Works Association (AWWA) Standard Water Audit Approach per the M36 manual in order to develop a water balance. The approach consists of a component analysis of leaks into "revenue" and "non-revenue" categories, among others, and an economic analysis of recoverable loss. The analysis is currently being performed for Calendar year 2010 and will be completed by September 2011.

#### **7.3.1.4 Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections**

Park's metering program began in 1950; all customers in their service area have been fully metered and billed volumetrically since that time.

Park complies with CPUC requirements for water meter testing. Park replaces 5/8-inch and 1-inch meters every 15 years, and 1-½ and 2-inch meters every 10 years. Meters 3-inches and larger are tested every 5 years and replaced within 20 years.

Park is in the process of converting all meters to Automatic Meter Reading (AMR). To date, 50 percent of the meters have been converted. This system eliminates the need for each meter to be visually read by a technician and ensures that water usage is billed correctly. The system-wide conversion is expected to be completed by 2020. The AMR system will also be highly useful in identifying customer side leaks and understanding assessing the impacts of various conservation programs.

#### **7.3.1.5 Retail Conservation Pricing**

Park converted its residential rate structure from uniform rates to increasing block rates in September 2008. As of June 2011, customers are billed at \$ 3.310/hundred cubic feet (ccf) for the first 1,200 units and \$3.793 for all use in excess of that. The portion of Park's revenue attributable to the volumetric component of billing is estimated at 71 percent in 2010. Table 7-1 shows Park's revenues for the period from 2008 to 2010.

**TABLE 7- 1  
PARK REVENUES**

	<b>2008</b>	<b>2009</b>	<b>2010</b>
Fixed Charges	\$6,454,456	\$5,786,598	\$6,424,528
Volumetric Charges	\$13,883,873	\$15,830,128	\$15,567,110
Total Revenue	\$20,338,328	\$21,616,726	\$21,991,638
% Volumetric	68%	73%	71%

### 7.3.2 Education

#### 7.3.2.1 Public Information Programs

Park distributes public information on conservation through pamphlets, bill inserts, newsletters, and brochures, which are available in the lobby of the office where customers pay their bill. The lobby also displays a slide show of conservation tips. The website provides conservation tips and resources, links to local water conservation ordinances, and information on rebate programs. Rebate information includes links to the SoCal WaterSmart and CBMWD sites, both of which provide residential and CII rebate calculators identifying all rebates currently available to Park customers. Park also provides speakers on conservation for local organizations and participates in community events. Outreach activities, which were launched in 2006, are summarized in Table 7-2.

**TABLE 7-2  
SUMMARY OF OUTREACH ACTIVITIES**

<b>Item</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Paid Advertising		Yes		Yes
Bill Inserts / Newsletters / Brochures	4	4	4	4
Bill showing current water usage in comparison with prior year usage	Yes	Yes	Yes	Yes
Demonstration Gardens	Yes	Yes	Yes	Yes
Landscape Workshops			4	4
Special Events	4	7	5	4
Program to coordinate with other government agencies, industry, public interest groups and media	Yes	Yes	Yes	Yes

In addition, Park communicates directly with its customers through the bi-monthly bills. Customer bills show usage data for the current month, compared to the same month in the previous year so that customers can track their own use. Park also houses a popular conservation demonstration garden installed at its main office that shows how water-efficient landscaping can be both practical and attractive. The garden has been growing for 18 years, showing climate-appropriate landscaping in mature form.

#### 7.3.2.2 School Education Programs

CBMWD implements a School Education Programs that promote water conservation and other resource efficiencies to students at school facilities. CBMWD provides conservation education

programs such as "Think Earth It's Magic" for grades K-5, and "Water Squad Investigations" for grades 4 through 12 to schools within their service area at no cost to the schools. Park will work with CBMWD to obtain information on number of classes and students reached for the next BMP reporting cycle.

## 7.4 Programmatic BMPs

Park has chosen a combined BMP/Flex Track approach for complying with the MOU, largely because of its strong history with BMP implementation. BMP status is described in the following section. The cost effectiveness analysis is compared with Parks' estimated water cost of \$875/AF in 2010.

### 7.4.1 Residential Programs

The largest customer class in the Park service area is residential users, accounting for approximately 92 percent of customer accounts and 68 percent of total use. Accordingly, Park has focused the majority of its conservation efforts on residential use. Note that multi-family customers are classified as commercial accounts.

#### 7.4.1.1 Residential Assistance Program and Landscape Water Survey BMP

Park offers free residential water use surveys to single-family customers. Survey teams measure flow rates of plumbing fixtures, test for toilet leakage and provide landscape assessments and other assistance as required. To date Park has only provided about 45 surveys, but the program will be expanding in 2011 to support the Toilet Direct Program (Section 7.4.1.4) which requires a full follow up home survey for participants in the program that received a free toilet. Park is expecting to perform follow up audits over the next few years.

Park has been providing free low-flow showerheads, aerators, and leak detection tablets to its customers since 2007 (Table 7-3). Free low-flow showerheads and faucet aerators and other items are available at the agency office and are given away at community events, local fairs, during Water Awareness Month as well as during inspections. In addition to the kits, about 440 leak detection tablets were distributed in 2009.

**TABLE 7-3  
LOW-FLOW DEVICE DISTRIBUTION**

Item	2007	2008	2009	2010
Conservation kits	200	1,100	1,060	1,200

Park is filing a cost effectiveness exemption for the BMP requirement based on a benefit: cost ratio of about 0.8. Compliance with the BMP requires 375 audits per year be performed. The analysis is presented in Table 7-4 and combines both the indoor and outdoor surveys. A savings of 0.045 AFY, a decay rate of 10 percent and an administration rate of 25 percent were used to calculate the cost effectiveness. The first two of these assumptions are based on the CUWCC estimates from Research and Evaluation Committee Report (8/13/09). The CUWCC recommends a decay rate of 25 percent; however, Park felt that if the program were targeted towards higher users, the savings would be perpetuated longer. The administrative costs

include all associated expenses such as customer contact, inspection scheduling, marketing materials and follow up.

**TABLE 7- 4**  
**COST EFFECTIVENESS OF THE RESIDENTIAL**  
**ASSISTANCE AND LANDSCAPE WATER SURVEY BMP**

Total Costs	\$147,045
Total Benefits	\$113,473
Benefit/Cost	0.77
Discount Rate	2.9%
Time Horizon	25 years
Cost of Water	\$940
Water Savings (AFY)	156

#### 7.4.1.2 Landscape Water Survey

Park offers landscape water surveys in coordination with its indoor survey program. The landscape element includes showing the customer how to read their water meter, testing sprinkler system efficiency and distribution uniformity and reviewing irrigation scheduling. Customers receive a three-season irrigation schedule, recommendations for sprinkler system repair or improvement, instructions on setting the irrigation controller, and brochures on water-efficient landscaping, design and plants. Residential customers are also eligible for WaterSmart rebates for rotating sprinkler nozzles.

Park is filing a cost-effectiveness exemption on this BMP requirement; see Table 7-4 for the analysis.

#### 7.4.1.3 High-Efficiency Clothes Washing Machine Financial Incentive Programs

Through partnership with CBMWD, Park has been offering WaterSmart rebates for High-Efficiency Clothes Washing Machines (HECW) with a 6.0 water factor or less since 2007 (Table 7-5). Park has contributed \$12,750 funding to the HECW rebate program since 2008.

**TABLE 7-5**  
**HECW REBATES**

	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Total</b>
Number of Rebates	74	45	67	109	295
Park's Contribution			\$7,375	\$5,375	\$12,750

BMP compliance requires that incentives be provided to 10 percent of single-family customers over 10 years. This means that 2,500 rebates must be issued by 2018, or 250 per year, for a 2020 savings of 56 AFY or 344 AF. The rebates provided by Park to date are estimated to save 9 AFY or 77 AF by 2020.

Park is implementing a flex track option for HECW rebates. There are two factors that drive this decision. The first is that the wholesaler support programs are not guaranteed and Park does



not have the resources to provide a large enough incentive on its own. The second reason is that purchases of these types of larger appliances have dropped in recent years due to the economy and it is not clear when sales will rebound. At the same time, the HET programs (both rebate and direct install), have been highly successful. Park is confident that it can provide about 150 HECW incentives per year, for a 2020 savings of 33 AFY (344 AF total). The balance of the 2020 water savings of 23 AFY (138 AF) is projected to be obtained through single-family HET rebates (Table 7-6).

**TABLE 7-6  
HECW FLEX TRACK PROGRAM**

<b>Fixture</b>	<b>Required Number of Rebates (per year)</b>	<b>2020 Cumulative Savings (AF)</b>	<b>Proposed Number of Rebates (per year)</b>	<b>2020 Cumulative Savings (AF)</b>
HECW	250	344	150	206
HET	200	232	320	370
<b>Total</b>	<b>450</b>	<b>576</b>	<b>470</b>	<b>576</b>

#### **7.4.1.4 WaterSense Specification (WSS) Toilets**

Park's service area has a considerable number of older dwellings, making it a good target for HET programs. Since 2007 Park has offered a variety of toilet rebate and replacement programs in collaboration with other local and state agencies (Table 7-7). Park collaborated with CBMWD to provide free high-efficiency toilets (HETs) to single family (SF) and multi-family (MF) customers, primarily distributed by community-based organizations (CBOs). HETs use only 1.3 gallons per flush or less, compared to older models which use anywhere from 1.6 to 7 gallons per flush. Park customers also participated in the SoCal WaterSmart Rebate Program offered by CBMWD in partnership with Park and MWD. Participation in this program increased significantly in 2009, with the number of rebates exceeding the projected quantity by 42 percent.

In November 2010, Park initiated the Toilet Direct Pilot program that ships toilets directly to qualified customers, free of charge. The program offers immediate response to customer demands and allows Park to assist its low-income and disabled customers that may not otherwise have the means to participate in a rebate program. The program initially focused solely on low-income customers and then was opened to all customers who had not participated in past HET rebate programs. The program offers the flexibility of placing an order over the phone or through the internet. The toilets that are offered are WaterSense approved 1.28 Flapperless HETs manufactured by Niagara Conservation. Participating customers agree to install the toilet within 30 days of delivery and allow a water audit to verify installation and identify other water-saving opportunities in their home. The program has exceeded expectations; within four weeks 873 HETs were delivered, mostly to low-income customers. The cost of the program has been \$165,081.

In 2010 Park also entered into an agreement with CBMWD to distribute 216 HETs to single-family homeowners and 133 to multi-family homeowners free of charge.

Table 7-7 shows the number of HETs rebated or otherwise incentivized since 2007. Compliance with the BMP requires Park to provide incentives to replace the number of toilets at a rate that is at least as effective as a retrofit on resale ordinance would be. For Park, with a

resale rate of about 4 percent, that would be about 2,000 toilets or 200 per year for 10 years for a savings of 40 AFY or 232 AF total by 2020. Park is exceeding the replacement rate and has already achieved almost its entire requirement. Park will be providing incentives for at least 320 HETs per year in order to comply with the HET Flex Track Program.

The savings from multi-family toilets are counted as CII savings (Section 7.4.2) because MF customers are identified as CII in the billing system.

**TABLE 7-7  
HET REBATES**

High-Efficiency Toilets	2007	2008	2009	2010	Total	2020 Savings (AFY)	2020 Total savings (AF)
Single Family	209	80	440	873	1,602	28	219
Multi-Family <sup>(a)</sup>	93	0	107	113	313	9	77
Park's Contribution			\$18,750	\$1,207	\$19,557		

Note: (a) Classified as commercial

Beginning January 1, 2014, installation of water-conserving plumbing fixtures (including toilets, faucets, and showerheads) will be accelerated by compliance with SB407. This regulation requires all residential, multi-family and commercial customers with pre-1994, non-compliant fixtures to replace them with water-conserving fixtures when making certain improvements or alterations to a building, or upon resale of the property. By 2017, all single-family homes must replace non-compliant plumbing fixtures, and by 2019, all multifamily and commercial buildings must have compliant water-conserving plumbing fixtures in place.

#### **7.4.1.5 Water Sense Specification for New Residential Development**

The requirement of the BMP is that the utility provide incentives such as rebates, recognition programs, or reduced connection fees, or ordinances requiring residential construction meeting water sense specifications (WSS) for single and multi-family housing until a local, state or federal regulation is passed requiring water efficient fixtures.

The 2010 California Green Building Standards Code (CAL Green Code, CALGreenCode.pdf) addresses these WSS requirements. The CAL Green Code sets mandatory green building measures, including a 20 percent reduction in indoor water use, as well as dedicated meter requirements and regulations addressing landscape irrigation and design. The Code also identifies voluntary measures that set a higher standard of efficiency.

Park is an investor-owned utility and does not have regulatory authority to develop ordinances.

#### **7.4.1.6 Additional Residential Programs**

##### Low Income Retrofit Program

Starting in 2010 and continuing at least through 2012, Park staff has identified low-income customers as a conservation program priority. Typically, low income customers are less able to participate in rebate programs and often live in older homes with less efficient fixtures. The combination of these two factors has instigated development of programs targeted specifically

at low income customers. The Toilet Direct Program (Section 7.4.1.4) was the first such program and Park hopes to continue this effort of providing free fixtures to qualifying customers.

#### Rotating Sprinkler Nozzle Rebates

Park offers rebates to its residential customers through the SoCal WaterSmart Rebate Program. This Program, offered through CBMWD in partnership with Park and MWD, provides incentives to residential customers who purchase and install WaterSense approved devices. In addition to the toilet and washing machine rebates discussed in previous sections, customers are also eligible for Rotating Sprinkler Nozzles at up to \$8 per nozzle. When the program was first launched in 2009, 200 nozzles were rebated. In 2010, participation rates increased to 500 nozzles, with savings estimated at 0.16 AF.

#### Landscape Classes

Professional Landscape classes and California Friendly Gardening Workshops are offered through CBMWD in partnership with Park and provide valuable information to landscape professionals and residential customers on ways to use water more efficiently by planting California-native plants and other drought-resistant species in their gardens.

### 7.4.2 Commercial, Industrial and Institutional (CII)

Park includes MF residential users within its CII classification. Together there are about 1,901 CII accounts which use about 3,744 AFY, or 28 percent of total water use. Park does not have a significant number of large businesses in its service area so MF customers account for the large use in this category. Park's water use reduction goal to meet the requirements of the BMP is 37 AFY or 370 AF in 10 years. Park estimates that it has saved about 9.4 AFY from the multi-family HET incentive programs to date (Table 7-7).

The Save-A-Buck Regional Rebate Program for CII customers, offered through CBMWD in partnership with Park and MWD, provides rebates for WaterSense devices. The program offers rebates up to \$210 for commercial clothes washers, up to \$100 for waterbrooms, \$625 for cooling tower conductivity controllers, \$60 for pre-rinse kitchen spray nozzles, \$3,120 for x-ray machine recirculating devices, \$50-\$165 for high-efficiency toilets and \$200-\$400 for waterless urinals. The CII Rebate Program estimates an average savings of about 19 percent. These programs are administered on a first come, first served basis and typically are heavily oversubscribed. To date Park customers have not been successful at qualifying in time to receive rebates.

Park is planning to expand its CII audit and retrofits programs in 2011 to meet the required 10 percent reduction in CII use. Park plans to offer rebate opportunities to its multi-family and commercial customers and plans to increase participation in the regional programs by advertising future Save-A-Buck programs to CII customers in a more robust way in order to make them aware of the importance of applying early. In addition Park is targeting schools within the service area and plans to complete two school audits in 2011. The audits will identify water efficiency potential and opportunities for collaboration including potential incentives.

### 7.4.3 Landscape

Large landscape conservation programs have not been a significant focus because there are few large landscapes in Park's service area and no dedicated meters as a result.

Park does not have the jurisdiction to implement ordinances but works in partnership with CBMWD, as well as local nurseries, landscape designers, and contractors to help educate customers about water efficient landscapes. Park provides information about landscape water efficiency in its new customer packets, the customer service lobby, and at community events. Park will be including a landscape survey element in its work with the school districts.

Professional Landscape Classes and California Friendly Gardening Workshops are offered in partnership with CBMWD. These classes provide information for landscape professionals and residential customers on achieving more efficient water use by planting California-native plants and other drought-resistant species. Four workshops were held in 2009.

## 7.5 DMM and SBX7-7 Implementation Plan

As discussed in Chapter 2, Park has achieved its SBX7-7 requirements by having a very low per capita use – below 100 gpcd. Ideally, Park would like to choose the GPCD method of BMP compliance, however due to the way the GPCD method is defined, there is no flexibility in choosing the baseline nor is there any recognition for low use. The GPCD method goal of 84 gpcd is well below standard guidelines or any other documented use in the state.

As a result Park is choosing to implement a BMP/Flex Track approach to compliance. The preceding sections describe Park's BMP compliance status; Park is currently on track towards compliance with the MOU. In light of the 2008 revised 10 percent reduction requirements for CII use, Park will be expanding its focus on schools and multi-family customer rebates as well as the regional CII rebate program (described in Section 7.4.2).

As an Investor-Owned Utility, conservation program funding, among other things, is contingent on the CPUC's approval of the proposed budget. In Park's Test Year 2010 rate case, the CPUC authorized about \$200,000 a year for conservation programs.

In addition to the local program elements, Park expects to see significant savings from legislated efficiencies including SB407, AB1881, CAL Green, as well as the new standards for HETs and HECWs. Park will support implementation of these codes as required.

Finally, Park is also considering developing a database to assist in tracking water use and programs. This new tool will improve Park's water conservation program tracking, measurement and compliance; streamline program processes; identify water consumption and program participation patterns and track expenditures provide analytic tools to measure program success. Other tools such as GIS capabilities, automating program processes, and providing a web-based tool to communicate information to the public, may be incorporated as well.

The implementation of the stated conservation programs are expected to assist in further reduction in demand within the system.

## Section 8: Water Shortage Contingency Planning

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Water supplies may be interrupted or reduced significantly in a number of ways, such as a drought which limits supplies, an earthquake which damages water delivery or storage facilities, a regional power outage, or a toxic spill that affects water quality. This section of the Plan describes how Park plans to respond to such emergencies so that emergency needs are met promptly and equitably.

Park has adopted Rule 14.1 of the CPUC entitled Water Conservation and Rationing Plan, which has been included as Appendix E. Prohibitions, penalties and financial impacts of shortages have recently been developed by Park and are summarized in this section.

### 8.1 Coordinated Planning

Park serves portions of eight different communities within its three separately operated water systems. In order to meet short-term water demand deficiencies, and short- or long-term drought requirements in these communities, Park has implemented precautionary methods. For added reliability, each one of the systems has at least two sources of water, groundwater and imported water. Each system also has at least one interconnection, on a standby basis, with adjacent water agencies for short-term emergency situations. Park's supervisory control and data acquisition (SCADA) system enables operators to control wells and MWD connections remotely from a central location. This system provides continuous monitoring and allows for the curtailment or startup of select production sources in the event of an emergency.

Park's water system is designed to provide water service to its customers in the event of a major power failure. Park has three 180-kilowatt and one 200-kilowatt mobile, diesel-powered emergency generators that can run wells located in the three service areas. One of these generators provides power to the headquarters building and operations control center. For the imported water system, MWD can deliver supplies to Park via gravity. Half of Diamond Valley Lake (located near Hemet in southwestern Riverside County) storage is dedicated to meet demands in MWD's service area during a catastrophic condition for up to six months. Diamond Valley Lake holds approximately 800,000 AF (260 billion gallons) of water that can be delivered by gravity to serve Park's service area.

In addition, in coordination with CBMWD, Park follows MWD's adopted Water Surplus and Drought Management Plan (WSDM Plan). The WSDM Plan guides the management of regional water supplies to achieve the reliability goals of MWD's Integrated Water Resource Plan.

### 8.2 Stages of Action to Respond to Water Shortages

If water supplies are projected to be insufficient to meet normal customer demand and are beyond the control of the utility, Park may implement voluntary conservation after notifying the California Public Utilities Commission (CPUC) Water Division. In the event that voluntary conservation measures are not adequate, Park may impose mandatory conservation and rationing after receiving CPUC approval. Park also works in collaboration with city governments in which it serves to encourage conservation. Park informs its customers of their local city

ordinances and that of MWD, as well as takes the necessary actions available to curtail the waste of water, including following MWD's WSDM Plan.

### 8.2.1 Water Shortage Response

As the water purveyor, Park must provide the minimum health and safety water needs of the community at all times. Park Water Company has developed four stages of action to be taken in response to water supply shortages up to 50 percent. Table 8-1 presents the four-stage rationing and demand reduction goals for Park. Park Water must obtain approval from the CPUC prior to implementing any mandatory stages.

**TABLE 8-1  
RATIONING AND REDUCTION GOALS**

<b>Deficiency</b>	<b>Stage</b>	<b>Demand Reduction Goal</b>	<b>Type of Program</b>
Up to 10%	1	5-10% reduction	Voluntary
10-20%	2	10-20% reduction	Mandatory Conservation Stage Mandatory Conservation Rules and Increased Tiered Rates
20-35%	3	20-35% reduction	Rationing Stage Mandatory Conservation Rules and Increased Tiered Rates
35-50%	4	35-50% reduction	Critical Rationing Stage Mandatory Conservation Rules and Increased Tiered Rates

- Stage 1:**  
 During Stage 1, the drought conditions will be explained to Park customers and voluntary conservation will be encouraged. The customer will be encouraged not to use water for non-essential or unauthorized uses as listed in Section 8.6.
- Stage 2:**  
 Park will continue public outreach and education about the water supply conditions, and customers will be asked to reduce consumption by 10 to 20 percent. Depending on the desired reduction goal, mandatory conservation may be required. Prior to implementation of mandatory restrictions, CPUC approval will be required and public meetings will be held. Tiered rate changes will be implemented to penalize excess usage. Each customer will be notified of the change in tiered rates and other details about the rationing plan by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. The voluntary conservation measures listed in Section 8.6 will become mandatory when a rationing program goes into effect. In a disaster, prior notification may not be possible, and notice will be provided by other means. Park Water Company will also work with appropriate governmental agencies for the passage of drought ordinances.

- **Stage 3:**  
During Stage 3, mandatory conservation rules and tiered rate changes will be required to meet reductions of 20 to 35 percent. If a customer consistently abuses water, a flow restrictor may be installed. Park will monitor production daily for compliance with conservation reduction requirements. Park may read customer meters on a more frequent basis.
- **Stage 4:**  
During this stage, the shortage is critical and 35 to 50 percent reduction will be required. The steps taken in the prior stages will be increased, and production will be monitored daily.

Priorities for use of available water, based on Chapter 3 of the California Water Code, are:

- Health and Safety—Interior residential, sanitation and fire protection
- Commercial, Industrial, and Governmental—Maintain jobs and economic base
- Existing Landscaping—Especially trees and shrubs
- New Demand—Projects with permits when shortage declared

#### 8.2.1.1 MWD WSDM Plan

The WSDM Plan guides the operations of water resources (local resources, Colorado River, State Water Project, and regional storage) to ensure regional reliability. It identifies the expected sequence of resource management actions MWD will take during surpluses and shortages of water to minimize the probability of severe shortages that require curtailment of full-service demands. Mandatory allocations are avoided to the extent practicable; however, in the event of an extreme shortage an allocation plan will be developed in accordance with the principles of the WSDM Plan, approved by the CPUC, and subsequently implemented by Park.

The WSDM Plan distinguishes between *Surpluses*, *Shortages*, *Severe Shortages*, and *Extreme Shortages*. Within the WSDM Plan, these terms have specific meaning relating to MWD's capability to deliver water to Park.

- **Surplus**  
Supplies are sufficient to allow MWD to meet Full Service demands, make deliveries to all interruptible programs (replenishment, long-term seasonal storage, and agricultural deliveries), and deliver water to regional and local facilities for storage.
- **Shortage**  
Supplies are sufficient to allow MWD to meet Full Service demands and make partial or full deliveries to interruptible programs, sometimes using stored water and voluntary water transfers.
- **Severe Shortage**  
Supplies are insufficient and MWD is required to make withdrawals from storage, call on its water transfers, and possibly call for extraordinary drought conservation and reduce deliveries under the IAWP.

- **Extreme Shortage**

Supplies are insufficient and MWD is required to allocate available imported supplies.

The WSDM Plan also defines five surplus management stages and seven shortage management stages to guide resource management activities. Each year, MWD will consider the level of supplies available and the existing levels of water in storage to determine the appropriate management stage for that year. Each stage is associated with specific resource management actions designed to: 1) avoid an Extreme Shortage to the maximum extent possible; and 2) minimize adverse impacts to retail customers should an “Extreme Shortage” occur. The current sequencing outline in the WSDM Plan reflects anticipated responses based on detailed modeling of MWD’s existing and expected resource mix. This sequencing may change as the resource mix evolves.

### 8.2.1.2 Shortage Actions by Shortage Stage

When MWD must make net withdrawals from storage, it is considered to be in a shortage condition. However, under most of these stages, it is still able to meet all end-use demands for water. The following summaries describe water management actions to be taken under each of the seven shortage stages:

- **Shortage Stage 1:**  
MWD will continue storage deliveries to Diamond Valley and SWP terminal reservoirs. Draws from Diamond Valley may be necessary to fully or partially meet interruptible demands.
- **Shortage Stage 2:**  
MWD will continue Shortage Stage 1 actions and may draw from Semitropic and Arvin-Edison groundwater storage to meet anticipated demands.
- **Shortage Stage 3:**  
MWD will continue Shortage Stage 2 actions and may curtail or temporarily suspend deliveries to Long-Term Seasonal and Replenishment Groundwater Storage Programs.
- **Shortage Stage 4:**  
MWD will continue Shortage Stage 3 actions and may draw from contractual groundwater storage and SWP terminal reservoirs to meet full-service demands.

### 8.2.1.3 Severe Shortage Stages

- **Shortage Stage 5:**  
MWD will continue Shortage Stage 4 actions. MWD Board of Directors may call for extraordinary conservation and may curtail Interim Agricultural Water Program deliveries. In the event of a call for extraordinary conservation, MWD’s Drought Program Officer will coordinate public information activities with member agencies and monitor the effectiveness of ongoing conservation programs. The Drought Program Officer will implement monthly reporting on conservation program activities and progress and will provide quarterly estimates of conservation water savings.



- **Shortage Stage 6:**  
MWD will continue Shortage Stage 5 actions and may exercise water supply option contracts and/or buy water on the market either for consumptive use or for delivery to regional storage facilities.

#### 8.2.1.4 Extreme Shortage Stage

- **Shortage Stage 7:**  
MWD will discontinue deliveries to regional storage facilities, continue extraordinary conservation efforts, and develop a plan to allocate available supply fairly and efficiently to full-service customers. MWD will enforce these allocations using rate surcharges. Currently the surcharges are:
  - Between 100 and 115 percent of allocation, the Tier 1 rate plus three (3) times the Tier 2 rate
  - Greater than 115 percent of allocation, the Tier 1 rate plus five (5) times the Tier 2 rate.

The overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage. Given present resources, MWD fully expects to achieve this goal over the next ten years.

#### 8.2.1.5 Health and Safety Requirements

The primary goal of the Park's water system is to preserve the health and safety of its personnel and the public. Meeting this goal is a continuous function of the system – before, during and after a disaster or water shortage. Fire suppression capabilities are expected to be maintained during any water shortage contingency stage. Some water needs are more immediate than others. The following list of public health needs and the allowable time without potable water is a guideline and will depend on the magnitude of the water shortage:

- Hospitals – continuous need
- Emergency shelters – immediate need
- Kidney dialysis – 24 hours
- Drinking water – 72 hours
- Personal hygiene, waste disposal – 72 hours

Water quantity calculations used to determine the interior household gpcd requirements for health and safety are provided in Table 8-2. As developed in Table 8-2, the California Water Code Stage 2, 3, and 4 health and safety allotments are 68 gpcd, or 33 ccf (100 cubic feet) per person per year. When considering this allotment and the 2010 Park service area population of 128,193, as presented in Table 2-2, the total annual water supply required to meet the first priority use during a water shortage is approximately 9,764 AFY.

**TABLE 8-2  
PER CAPITA HEALTH AND SAFETY WATER QUANTITY CALCULATIONS**

Non-Conserving Fixtures			Habit Changes		Conserving Fixtures	
Toilets	5 flushes x 5.5 gpf =	27.5	3 flushes x 5.5 gpf =	16.5	5 flushes x 1.6 gpf =	8.0
Showers	5 min x 4.0 gpm =	20.0	4 min x 3.0 gpm =	12.0	5 min x 2.0 gpm =	10.0
Washers	12.5 gpcd (1/3 load) =	12.5	11.5 gpcd (1/3 load) =	11.5	11.5 gpcd (1/3 load) =	11.5
Kitchens	4 gpcd =	4.0	4 gpcd =	4.0	4 gpcd =	4.0
Other	4 gpcd =	4.0	4 gpcd =	4.0	4 gpcd =	4.0
Total gpcd		68.0		48.0		37.5
CCF per capita per year		33.0		23.0		18.0

### 8.2.2 Priority by Use

Priorities for use of available potable water during shortages are based on the legal requirements set forth in the California Water Code, Sections 350-358, that conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

Conditions prevailing in Park's service area require that the water resources available be put to maximum beneficial use to the extent to which they are capable. The waste or unreasonable use, or unreasonable method of use, of water should be prevented. Water conservation and water use efficiency is encouraged with a view to the maximum reasonable and beneficial use thereof in the interests of customers of Park and for the public welfare. Preservation of health and safety will be a top priority for Park.

Water allocations will abide by the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals and convalescent facilities, retirement and mobile home communities, student housing, and fire fighting and public safety).
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors) to maintain jobs and economic base of the community (not for landscape uses).
- Existing landscaping.
- New customers, proposed projects without permits when shortage is declared.

### 8.3 Minimum Water Supply Available During Next Three Years

The minimum water supply available during the next three years would occur during a three-year multiple-dry year event between 2011 and 2013. As shown in Table 8-3, the total supplies are approximately 15,588 AFY during the next three years. When comparing these supplies to the demand projections provided in Chapters 2 and 6 of this Plan, Park has adequate supplies available to meet projected demands should a multiple-dry year period occur during the next three years.

**TABLE 8-3  
ESTIMATE OF MINIMUM SUPPLY FOR THE NEXT THREE YEARS**

Source	Supply (AF)		
	2011	2012	2013
Imported/Purchased Water	11,888	11,888	11,888
Groundwater	3,400	3,400	3,400
Recycled Water	270	270	270
<b>Total Supplies</b>	<b>15,588</b>	<b>15,588</b>	<b>15,588</b>

Source: Table 6.3; groundwater and recycled water remain constant with balance supplied by imported water.

## 8.4 Actions to Prepare for Catastrophic Interruption

### 8.4.1 Imported Water Supplies

In addition to earthquakes, imported water supplies could experience other emergency outage scenarios. Past examples on the SWP include slippage of aqueduct side panels into the California Aqueduct near Patterson in the mid-1990s, the Arroyo Pasajero flood event in 1995 (which also destroyed part of Interstate 5 near Los Baños), and various subsidence repairs needed along the East Branch of the California Aqueduct since the 1980s. All these outages were short-term in nature (on the order of weeks), and DWR's Operations and Maintenance Division worked diligently to devise methods to keep the Aqueduct in operation while repairs were made. Thus, the SWP contractors experienced no interruption in deliveries.

One of the SWP's important design engineering features is the ability to isolate parts of the system. The Aqueduct is divided into "pools." Thus, if one reservoir or portion of the California Aqueduct is damaged in some way, other portions of the system can still remain in operation.

Other events could result in significant outages and potential interruption of service. Examples of possible nature-caused events include a levee breach in the Delta near the Harvey O. Banks Pumping Plant, a flood or earthquake event that severely damaged the Aqueduct along its San Joaquin Valley traverse, or an earthquake event along either the West or East Branches. Such events could impact some or all SWP contractors south of the Delta.

The response of DWR and other SWP contractors to such events would be highly dependent on the type and location of any such event. In typical SWP operations, water flowing through the Delta is diverted at the SWP's main pumping facility, located in the southern Delta, and is pumped into the California Aqueduct. During the relatively heavier runoff period in the winter and early spring, Delta diversions generally exceed SWP contractor demands, and the excess is stored in San Luis Reservoir. Storage in SWP aqueduct terminal reservoirs, such as Pyramid and Castaic Lakes, is also refilled during this period. During the summer and fall, when diversions from the Delta are generally more limited and less than contractor demands, releases from San Luis Reservoir are used to make up the difference in deliveries to contractors. The SWP share of maximum storage capacity at San Luis Reservoir is 1,062,000 AF.

Colorado River supplies are likewise vulnerable to catastrophic interruption and MWD relies on storage reservoirs for emergency supply as discussed in the following subsection.

#### 8.4.2 Other MWD Facilities

A key component of MWD's emergency response planning is storage. MWD established its criteria for determining storage requirements in the October 1991 Final Environmental Impact Report for the Eastside Reservoir, now the Diamond Valley Lake. These criteria were again discussed during preparation of the 1996 Integrated Resource Plan (IRP). Emergency storage requirements are based on the potential of a major earthquake damaging the aqueducts that transport imported water supplies to southern California, the SWP, CRA and Los Angeles Aqueducts). MWD's storage criteria include capacity for six months' duration of emergency supply. MWD also has access to emergency storage at its other reservoirs, at the SWP terminal reservoirs and in its groundwater conjunctive use storage accounts.

MWD has also developed contingency plans for planned and unplanned electrical outages at its facilities. This includes gravity-fed water supply from reservoirs, backup generation capability at all treatment plants, backup generation for operation of key valves, and mobile generators that can be transported as necessary to key facilities.

### 8.5 Water Shortage Emergency Response

Park has developed an Emergency Response and Recovery Plan to respond in a major emergency associated with natural disasters, technological incidents, and national security emergencies affecting Park's facilities and service area. The goals of the Emergency Response and Recovery Plan are to rapidly restore service after an emergency; ensure adequate water service for fire suppression; minimize water or electrical system damage; minimize impact and loss to customers; and provide emergency public information concerning customer service. The following details Park's action during a major emergency or catastrophe:

- Activate the appropriate level of the emergency plan
- Mobilize emergency response personnel, as needed
- Activate the Emergency Operations Center, if necessary
- Notify other agencies such as regulatory agencies (local and state health, etc.)
- Begin damage inspections
- Evaluate safety of facilities
- Begin documentation process
- Activate emergency communications systems, as needed
- Activate emergency mutual assistance agreements, if necessary
- Activate contracts for emergency supplies (including water) and equipment
- Interface with the media
- Coordinate inter-agency resources, including water supplies
- Develop repair and restoration plans
- Provide public and employee information announcements, including water quality advisories

Park is a member of CalWARN and will have the resources of the WARN network available to assist in an emergency.

## 8.6 Prohibitions, Penalties, and Consumption Reduction Methods

Park implements several measures to curtail water consumption during times of water shortages. The water shortage stages outlined in Section 8.2 demonstrate the stages of action that will take place to ensure adequate consumption reduction methods to address a 50 percent reduction in supply. Park will also prohibit nonessential or unauthorized uses of water during shortage conditions. Voluntary compliance will be requested in Stage 1, and mandatory compliance will be necessary in Stages 2 – 4. The nonessential or unauthorized uses are included in Tariff Rule No. 14.1 and are listed below:

- Use of water by a customer when Park has notified the customer to repair broken or defective plumbing or sprinkler system and the customer failed to make such repairs within 5 days after receiving the written notice.
- Use of water which results in flooding or runoff into gutters, waterways, patios, driveways, or streets.
- Use of water for washing aircraft, cars, busses, boats, trailers or other vehicles without a positive automatic shut-off valve on the outlet of the hose.
- Use of water through a hose for washing buildings, structures, walkways, driveways, sidewalks, patios, parking lots, tennis courts, and other hard-surfaced areas which results in excessive run-off or waste.
- Use of water for watering streets with trucks, except for initial wash-down for construction purposed or to protect the health and safety of the public.
- Use of water to clean, fill, or maintain water in non-recycling decorative fountains, decorate lakes or ponds.
- Use of water for construction purposes, such as consolidation of backfill, unless no other source of water or other method can be used.
- Use of water for more than minimal landscaping with any new construction.
- Use of water for outside plants, lawn, landscape, and turf areas more often than every other day, with even numbered addresses watering on even numbered days of the month and odd numbered addresses watering on the odd numbered days of the month, except that this provision shall not apply to commercial nurseries, golf courses, and other water-dependent industries.
- Use of water for watering outside plants and turf areas using a hand-held hose without a positive shut-off valve.
- Use of water for the filling or refilling of swimming pools.
- Service of water by any restaurant except upon request of a patron.

Additionally, requirements set forth in the California Water Code Sections 350-359 conserve water supply for the greatest public benefit especially with regard to domestic use, sanitation,

and fire protection. During a water shortage, Park will allocate water supply for health and safety, residential, commercial, industrial, institutional/government, and landscaping needs in accordance with the ranking system detailed in Section 8.2 of this UWMP.

To reduce water use during the most severe stages of shortage, Park will employ the following methods if approved by the CPUC:

- Education programs
- Water conservation kits
- Flow restrictions
- Restrict use for only priority uses
- Increasing tiers and tiered rates
- Plumbing fixture replacement
- Termination of service

Park may, after one verbal and one written warning, install a flow-restricting device on the service line of any customer observed by Park personnel to be using water for any nonessential or unauthorized water use. If, despite installation of flow-restricting device, nonessential or unauthorized water use continues, Park may discontinue water service to such customer.

Any customer may seek a variance from any of the provisions of the water conservation and rationing plan by notifying Park in writing, setting forth the grounds for a variance in detail. Any customer not satisfied with Park's response may file an appeal with the CPUC.

## 8.7 Revenue and Expenditure Impacts and Measures to Overcome Those Impacts

In 2008, the CPUC approved the establishment of a Water Revenue Adjustment Mechanism (WRAM) Balancing Account and a Modified Cost Balancing Account (MCBA). These two regulatory accounts track the difference between actual and adopted water sales and production costs as part of a water conservation program. By March 31<sup>st</sup> of each year, Park provides the CPUC Division of Water and Audit a written report on the status of the WRAM and MCBA. The report includes a section on the net accumulated balance as of December 31<sup>st</sup> of the preceding calendar year. If the combined net accumulated balance for the WRAM and MCBA exceeds 2.0 percent of the total recorded revenue requirement for the prior calendar year, Park will file an advice letter within 30 days that amortizes the balance of both accounts. Recovery of the under-collections and refunds of over collections will be passed on to ratepayers through volumetric surcharges and surcredits.

## 8.8 Water Shortage Contingency Ordinance

As a private water utility, Park does not have the authority from the CPUC to adopt any ordinances for excessive use. However, Park works closely with city governments in which it serves to encourage conservation and institute ordinances as necessary. Park works diligently

in collaboration with CBMWD, MWD, and the city and counties in which it serves to carry out the declared water shortage stages.

## 8.9 Mechanisms to Determine Reductions in Water Use

In normal water supply conditions, production figures are recorded monthly and are incorporated into the monthly water production report. During rationing conditions, water shortages will be monitored on a weekly, daily, or hourly basis depending on the severity of the drought. Production from the MWD connections and well production can be retrieved on an hourly basis. This allows Park's Production Department to determine the effects of reductions on water production within the system.

During a disaster shortage, production figures will be monitored on an ongoing basis. Park's SCADA system will warn of any critical conditions instantly. If power goes out, backup generators will be used to run the main office and major wells. Reports will be provided on a daily basis to Park management.

## References

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Central Basin Municipal Water District website:

<http://www.centralbasin.org/recyclingProgram.html>

Central Basin Municipal Water District, *Draft 2010 Urban Water Management Plan*, March 2011

Metropolitan Water District, *The Regional Urban Water Management Plan*, November 2010

Ibid, *Integrated Water Resources Plan 2010 Update*, October 2010

Park Water Company website: <http://www.parkwater.com/229073.ihtml>

Park Water Company, *2005 Urban Water Management Plan*

Park Water Company, *Consumer Confidence Report and Annual Water Quality Report, Lynwood/Rancho Dominguez 2010/2011*

Ibid, *Consumer Confidence Report and Annual Water Quality Report, Bellflower/Norwalk 2010/2011*

Ibid, *Consumer Confidence Report and Annual Water Quality Report, Compton/Willowbrook 2010/2011*

Ibid, *2005 Urban Water Management Plan*, Psomas, November 2005

Water Replenishment District of Southern California, *Engineering Survey and Report*, March 2011

Ibid, *Regional Groundwater Monitoring Report Water Year 2009-2010*, February 2011



## Appendix A

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### DWR Checklist

**Table I-1 Urban Water Management Plan checklist, organized by legislation number**

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)	System Demands		Section 2.3, Table 2-4, Section 2.3.2
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	System Demands	Retailer and wholesalers have slightly different requirements	Section 1.2.2, Table 1-2
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Not applicable	Standardized form not yet available	
4	Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)	Plan Preparation		Section 1.2.1, Table 1-1
5	An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.	10620(f)	Water Supply Reliability . . .		Section 4.3.1 "Park's use of recycled water augments valuable groundwater and imported water within the area."
6	Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.	10621(b)	Plan Preparation		Section 1 and Appendix B

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
7	The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).	10621(c)	Plan Preparation		Section 1 and Appendix B
8	Describe the service area of the supplier	10631(a)	System Description		Section 1.3
9	(Describe the service area) climate	10631(a)	System Description		Section 1.4, Table 1-3
10	(Describe the service area) current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier . . .	10631(a)	System Description	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Section 2.1
11	. . . (population projections) shall be in five-year increments to 20 years or as far as data is available.	10631(a)	System Description	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Table 2-2
12	Describe . . . other demographic factors affecting the supplier's water management planning	10631(a)	System Description		Section 2.4.5
13	Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).	10631(b)	System Supplies	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 3, Table 3-1

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
14	(Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . . ?	10631(b)	System Supplies	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Yes, Section 3.2
15	(Provide a) copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management. Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)	System Supplies		NA
16	(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater.	10631(b)(2)	System Supplies		Section 3.2
17	For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board	10631(b)(2)	System Supplies		Appendix D
18	(Provide) a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.	10631(b)(2)	System Supplies		Section 3.2.2, Table 3-5
19	For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.	10631(b)(2)	System Supplies		N/A

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
20	(Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.	10631(b)(3)	System Supplies		Section 3.2.3, Table 3-6
21	(Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.	10631(b)(4)	System Supplies	Provide projections for 2015, 2020, 2025, and 2030.	Section 3, Table 3-1
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) An average water year, (B) A single dry water year, (C) Multiple dry water years.	10631(c)(1)	Water Supply Reliability . . .		Section 6.4
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)	Water Supply Reliability . . .		Section 6.4: "PWC has a consistent water supply through the SWP and groundwater which is sufficient water to meet demands during normal, single-dry, and multiple-dry years."
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	System Supplies		Section 3.4

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
25	Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof;(I) Agricultural.	10631(e)(1)	System Demands	Consider “past” to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 2, Table 2-3 and Table 2-8
26	(Describe and provide a schedule of implementation for) each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following: (A) Water survey programs for single-family residential and multifamily residential customers; (B) Residential plumbing retrofit; (C) System water audits, leak detection, and repair; (D) Metering with commodity rates for all new connections and retrofit of existing connections; (E) Large landscape conservation programs and incentives; (F) High-efficiency washing machine rebate programs; (G) Public information programs; (H) School education programs; (I) Conservation programs for commercial, industrial, and institutional accounts; (J) Wholesale agency programs; (K) Conservation pricing; (L) Water conservation coordinator; (M) Water waste prohibition;(N) Residential ultra-low-flush toilet replacement programs.	10631(f)(1)	DMMs	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 7
27	A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.	10631(f)(3)	DMMs		Section 7.4 (discusses cost effectiveness)
28	An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.	10631(f)(4)	DMMs		Section 7.5 (PWC already on track)

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
29	An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following: (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors; (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.	10631(g)	DMMs	See 10631(g) for additional wording.	Section 7
30	(Describe) all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.	10631(h)	System Supplies		Section 7.5
31	Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.	10631(i)	System Supplies		Section 3.7

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
32	Include the annual reports submitted to meet the Section 6.2 requirement (of the MOU), if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	DMMs	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Section 7
33	Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).	10631(k)	System Demands	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Table 6-3
34	The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)	System Demands		Section 2.4.4 and Table 2-15
35	Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.	10632(a)	Water Supply Reliability . . .		Section 8.2.1
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)	Water Supply Reliability . . .		Section 8.3, Table 8-3



No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
37	(Identify) actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)	Water Supply Reliability . . .		Section 8.4
38	(Identify) additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)	Water Supply Reliability . . .		Section 8.5
39	(Specify) consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)	Water Supply Reliability . . .		Section 8.5
40	(Indicated) penalties or charges for excessive use, where applicable.	10632(f)	Water Supply Reliability . . .		Section 8.6
41	An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)	Water Supply Reliability . . .		Section 8.6
42	(Provide) a draft water shortage contingency resolution or ordinance.	10632(h)	Water Supply Reliability . . .		Section 8.8
43	(Indicate) a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)	Water Supply Reliability . . .		Section 8.9
44	Provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area	10633	System Supplies		Section 4

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
45	(Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)	System Supplies		Section 4.2, Table 4-2, Section 4.2.1
46	(Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)	System Supplies		Section 4.2, Table 4-2
47	(Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)	System Supplies		Section 4.3.1
48	(Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)	System Supplies		Section 4.3.2
49	(Describe) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.	10633(e)	System Supplies		Table 4-3 and Section 4.3.3
50	(Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)	System Supplies		Section 4.4
51	(Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)	System Supplies		Section 4.5

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
52	The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.	10634	Water Supply Reliability . . .	For years 2010, 2015, 2020, 2025, and 2030	Section 5.3 and Table 5-1
53	Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)	Water Supply Reliability . . .		Section 6.4
54	The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.	10635(b)	Plan Preparation		Adopted by Board June 22, 2011. Copies of Final plan to be provided to planning agencies of water providers and cities/County in July 2011.
55	Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642	Plan Preparation		Section 1.2.2

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Subject <sup>b</sup>	Additional clarification	UWMP location
56	Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.	10642	Plan Preparation		Appendix B
57	After the hearing, the plan shall be adopted as prepared or as modified after the hearing.	10642	Plan Preparation		
58	An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.	10643	Plan Preparation		
59	An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.	10644(a)	Plan Preparation		
60	Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.	10645	Plan Preparation		

<sup>a</sup> The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

<sup>b</sup> The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

## Appendix B

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### Public Outreach Materials



April 15, 2011

# Park Water Company

Mr. Ernie Garcia  
City Manager  
City of Norwalk  
12700 Norwalk Blvd., Rm 3  
Norwalk, Calif. 90650

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

Dear Mr. Garcia:

This letter serves as notification that the Park Water Company is currently preparing a 2010 update of its Urban Water Management Plan (UWMP), pursuant to the Urban Water Management Planning Act (Act) of the California Water Code. Updates are required every five years. This effort helps ensure we can provide the communities we serve with a reliable supply of high-quality water to meet current and future demands.

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If you have any questions or comments about this effort, please contact me at (562) 299-5123 or by email at [jmbruno@parkwater.com](mailto:jmbruno@parkwater.com).

Sincerely,

Jeanne-Marie Bruno  
General Manager/Senior Vice President



April 15, 2011

# Park Water Company

Mr. Thaddeus McCormack  
City Manager  
City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, Calif. 90670

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

Dear Mr. McCormack:

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Jeanne-Marie Bruno  
General Manager/Senior Vice President





April 15, 2011

# Park Water Company

Mr. Willie Norfleet  
City Manager  
City of Compton  
205 S. Willowbrook Ave.  
Compton, Calif. 90220

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

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Sincerely,

Jeanne-Marie Bruno  
General Manager/Senior Vice President





April 15, 2011

# Park Water Company

Mr. Art Aguilar  
General Manager  
Central Basin Municipal Water District  
6252 Telegraph Road  
Commerce, Calif. 90040-2512

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

Art  
Dear Mr. Aguilar:

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Sincerely,

Jeanne-Marie Bruno  
General Manager/Senior Vice President



# Park Water Company

April 15, 2011

Mr. Mike Egan  
City Manager  
City of Bellflower  
16600 Civic Center Dr.  
Bellflower, Calif. 90706

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

*Mike*  
Dear Mr. Egan:

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Sincerely,

*Jeanne-Marie Bruno*

Jeanne-Marie Bruno  
General Manager/Senior Vice President



# Park Water Company

April 15, 2011

Maria Dadian  
City Manager  
Artesia City Hall  
18747 Clarkdale Ave.  
Artesia, Calif. 90701

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

Dear Ms. Dadian:

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Sincerely,

Jeanne-Marie Bruno  
General Manager/Senior Vice President





April 15, 2011

# Park Water Company

Mr. Roger Haley  
City Manager  
City of Lynwood  
11330 Bullis Road  
Lynwood, Calif. 90262

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

Dear Mr. Haley:

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Sincerely,

Jeanne-Marie Bruno  
General Manager/Senior Vice President



April 15, 2011

# Park Water Company

Mr. Robb Whitaker  
General Manager  
Water Replenishment District  
4040 Paramount Blvd.  
Lakewood, Calif. 90712

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

*Robb*  
Dear Mr. Whitaker:

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Sincerely,

*Jeanne-Marie Bruno*

Jeanne-Marie Bruno  
General Manager/Senior Vice President



April 15, 2011

# Park Water Company

Mr. Richard J. Bruckner  
Director  
Los Angeles County Department of Regional Planning  
1390 Hall of Records  
320 West Temple Street  
Los Angeles, Calif. 90012

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

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Sincerely,

Jeanne-Marie Bruno  
General Manager/Senior Vice President





# Park Water Company

April 15, 2011

Mr. Stephen R. Maguin  
General Manager  
County Sanitation Districts of L.A. County  
P.O. Box 4998  
Whittier, Calif. 90607-4998

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban Water Management Plan

Dear Mr. Maguin:

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Sincerely,

Jeanne-Marie Bruno  
General Manager/Senior Vice President



# Park Water Company

April 15, 2011

Mr. Devendra Upadhyay  
Manager, Water Resources Management  
Metropolitan Water District  
700 N. Alameda St.  
Los Angeles, Calif. 90012

Subject: Notification of Public Hearing for the 2010 Park Water Company Urban  
Water Management Plan

*Deven*  
Dear Mr. Upadhyay:

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*Jeanne-Marie Bruno*  
Jeanne-Marie Bruno  
General Manager/Senior Vice President





# Park Water Company

June 3, 2011

Mr. Art Aguilar  
General Manager  
C.B.M.W.D.  
6252 Telegraph Road  
Commerce, Calif. 90040-2512

Re: Park Water Company's Draft 2010 Urban Water Management Plan

*Art*  
Dear Mr. Aguilar:

Park Water Company is pleased to provide you with our draft 2010 Urban Water Management Plan (UWMP). The report provides information regarding our water use and supplies, water quality, reliability planning, water demand measures, and water shortage contingency planning. As a result of the findings in the report, we expect to have sufficient water supplies to meet the needs of all of our customers during normal, single dry, and multiple dry years. The final draft of the Plan is available for review on our website at [www.parkwater.com](http://www.parkwater.com) under "Who We Are", then click on "Source of Supply".

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Very truly yours,

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June 3, 2011

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City Manager  
City of Norwalk  
12700 Norwalk Blvd. Rm 3  
Norwalk, Calif. 90650

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City Manager  
City of Bellflower  
16600 Civic Center Dr.  
Bellflower, Calif. 90706

Re: Park Water Company's Draft 2010 Urban Water Management Plan

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Maria Dadian  
City Manager  
Aresia City Hall  
18747 Clarkdale Ave.  
Artesia, Calif. 90701

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City of Lynwood  
11330 Bullis Road  
Lynwood, Calif. 90262

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Santa Fe Springs, Calif. 90670

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Mr Robb Whitaker  
General Manager  
Water Replenishment District  
4040 Paramount Blvd.  
Lakewood, Calif. 90712

Re: Park Water Company's Draft 2010 Urban Water Management Plan

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Director  
Los Angeles County Department of Regional Planning  
1390 Hall of Records  
320 West Temple Street  
Los Angeles, Calif. 90012

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June 3, 2011

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General Manager  
County Sanitation Districts of L.A. County  
P.O. Box 4998  
Whittier, Calif. 90607-4998

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Manager, Water Resources Management  
Metropolitan Water District  
700 N. Alameda St.  
Los Angeles, Calif. 90012

Re: Park Water Company's Draft 2010 Urban Water Management Plan

  
Dear Mr. Upadhyay,

Park Water Company is pleased to provide you with our draft 2010 Urban Water Management Plan (UWMP). The report provides information regarding our water use and supplies, water quality, reliability planning, water demand measures, and water shortage contingency planning. As a result of the findings in the report, we expect to have sufficient water supplies to meet the needs of all of our customers during normal, single dry, and multiple dry years. The final draft of the Plan is available for review on our website at [www.parkwater.com](http://www.parkwater.com) under "Who We Are", then click on "Source of Supply".

We welcome any comments you might have on the report. The public hearing on the draft report will be held at our office on June 20, 2011 at 10 a.m. After we receive public comments, we will finalize the report by June 30.

If you have any questions, please call me at (562) 299-5123 or email me at [jmbruno@parkwater.com](mailto:jmbruno@parkwater.com).

Very truly yours,



Jeanne-Marie Bruno  
General Manager/Senior Vice President

**NOTICE OF PUBLIC HEARING**

Park Water Company (PWC) will conduct a hearing to receive public comments on its proposed Urban Water Management Plan. The plan describes and evaluates water uses and supplies, conservation practices, and reclamation activities in the PWC service areas in Norwalk, Compton, [Jackie Glover] unincorporated Los Angeles, Bellflower, Santa Fe Springs, Lynwood and Artesia. The hearing will be held at 10:00 AM on Monday, June 20th, at Park Water Company, 9750 Washburn Road, Downey. All comments will be considered and a final draft presented to the State of California Department of Water Resources by June 30th, 2011. A copy of the proposed Plan will be available for public review at the Park Water Company Downey location, beginning June 6th through June 20th between 8 AM and 5PM.

**Pub. May 27, June 3, 2011 (2t)PT(218045/191753)**



**LONG BEACH  
PRESS-TELEGRAM**

**300 Oceangate  
Long Beach, CA 90844**

**PROOF OF PUBLICATION  
(2015.5 C.C.P.)**

**STATE OF CALIFORNIA  
County of Los Angeles**

I am a citizen of the United States, and a resident of the county aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of the Long Beach Press-Telegram, a newspaper of general circulation printed and published daily in the City of Long Beach, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, on the date of March 21, 1934, Case Number 370512. The notice, of which the annexed is a true printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit,

*May 27, June 3, 2011*

The Long Beach Press-Telegram, a newspaper of general circulation, is delivered to and available in, but not limited to the following cities: Long Beach, Lakewood, Bellflower, Cerritos, Downey, Norwalk, Artesia, Paramount, Wilmington, Compton, South Gate, Los Alamitos, Seal Beach, Cypress, La Palma, Lynwood, San Pedro, Hawaiian Gardens, Huntington Park, La Mirada, Santa Fe Springs, Carson.  
I declare under penalty of perjury that the foregoing is true and correct.

Executed at Long Beach, LA Co. California  
this 3 day of June 2011

*Boz:al*  
signature

Proof of Publication of

Paste Clipping of Notice  
SECURELY in this space.

**NOTICE OF PUBLIC HEARING**

Park Water Company (PWC) will conduct a hearing to receive public comments on its proposed Urban Water Management Plan. The plan describes and evaluates water uses and supplies, conservation practices, and reclamation activities in the PWC service areas in Norwalk, Compton, [Jackie Glover] unincorporated Los Angeles, Bellflower, Santa Fe Springs, Lynwood and Artesia. The hearing will be held at 10:00 AM on Monday, June 20th, at Park Water Company, 9750 Washburn Road, Downey. All comments will be considered and a final draft presented to the State of California Department of Water Resources by June 30th, 2011. A copy of the proposed Plan will be available for public review at the Park Water Company Downey location, beginning June 6th through June 20th between 8 AM and 5PM.

**Pub. May 27, June 3, 2011 (2t) PT (218045/191753)**

## Appendix C

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CBMWD Purchase Order

**PURCHASE AGREEMENT FOR IMPORTED WATER TO BE PROVIDED BY  
CENTRAL BASIN MUNICIPAL WATER DISTRICT**

**PURCHASER:** Park Water Company

**BASE ALLOCATION:** 14,421 acre-feet (AF)

**TIER 1 ANNUAL MAXIMUM (90% of Base Allocation):** 12,979 AF

**PURCHASE COMMITMENT (60% of Base Allocation x 5):** 43,263 AF

**TERM:** 5 years

**EFFECTIVE DATE:** January 1, 2008

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Definitions of capitalized terms used in this Purchase Agreement are provided in Exhibit 1.

**COMMITMENTS**

1. Central Basin Municipal Water District (Central Basin) agrees to sell Imported Water to Purchaser up to the Tier 1 Annual Maximum amount at the then current Tier 1 Rate. Imported Water sold to Purchaser in an amount greater than the Tier 1 Annual Maximum shall be sold at the Tier 2 Rate.
2. Purchaser agrees to purchase no less than the Purchase Commitment of Imported Water from Central Basin during the Term.
3. If Purchaser's actual Imported Water purchases during the Term are less than the Purchase Commitment, Purchaser agrees to pay Central Basin the undelivered balance of the Purchase Commitment at the average of the Tier 1 Supply Rate in effect during the Term. Purchaser agrees to pay such amount to Central Basin no later than six months after billing.
4. The rates applicable to Imported Water under this Purchase Agreement could change from time to time as determined by the Central Basin Board of Directors. The rates as of the effective date of this Purchase Agreement are shown in Exhibit 1.

**AMENDMENTS AND RENEWALS**

1. Not later than August 1 of each year during the Term, Purchaser may provide a written request to Central Basin to change the Base Allocation for the following calendar year. The process for making the change is described in Exhibit 2. Central Basin shall determine whether such request, and any similar requests from other purchasers, can be accommodated. Central Basin staff shall notify Purchaser in writing no later than October 31 of that year as to its determination regarding the request. An adjustment to a Purchaser's base allocation will be reflected in an amendment to the Purchase Agreement, to be effective the first day of the calendar year following the request.



2. Not later than August 1, 2012, Purchaser may provide written notice to District of its determination to extend this Purchase Agreement for an additional 5-year period.

## **WATER SERVICE**

1. The Metropolitan Water District of Southern California (MWDSC) supplies Imported Water sold by Central Basin under this Purchase Agreement. MWDSC shall use its reasonable best efforts to deliver water when needed by the Purchaser during the Term. There shall be no default by Central Basin under this Purchase Agreement if MWDSC fails to deliver water to the Purchaser.
2. Purchase Agreement does not convey any right or confer any entitlement to Purchaser to receive Imported Water through MWDSC distribution system.
3. Imported Water delivered to the Purchaser under this Purchase Agreement shall be subject to reduction in accordance with the policies and principles governing the allocation of water by MWDSC to its member agencies. In the event MWDSC Board of Directors determines to reduce, interrupt or suspend deliveries of Imported Water, any outstanding balance of the Purchase Commitment at the end of the Term shall be reduced by the reduction in Imported Water made available to the Purchaser under this Purchase Agreement.

## **MISCELLANEOUS**

This Purchase Agreement will apply to and bind the successors and assigns of the Purchaser and Central Basin.

This Purchase Agreement is executed by the duly authorized officers of the Central Basin Municipal Water District and [Park Water Company](#), to be effective January 1, 2008.

CENTRAL BASIN MUNICIPAL  
WATER DISTRICT

[PARK WATER COMPANY](#)

By: 

Art Aguilar  
General Manager

By: 

Title: 

General Manager / Senior Vice President



**Exhibit 1**  
**Imported Water Purchase Agreement**  
**DEFINITIONS**

**“Base Allocation”** means the Purchaser’s share of Central Basin’s base amount with MWDSC (defined as the “Initial Base Demand” in Central Basin’s purchase order with MWDSC). The Purchaser’s Base Allocation is used to calculate both the Tier 1 Annual Maximum (90% of Base Allocation) and the Purchase Commitment (60% of Base Allocation times five). Initially, the Base Allocation is determined as the five-year average of Purchaser’s non-interruptible imported water purchases from Central Basin, from fiscal years ending 2001 through 2006, plus a prorated adjustment to account for Central Basin’s Initial Base Demand. As described in the Adjustments and Renewals section above, Base Allocation may be increased or decreased if Central Basin can accommodate a Purchaser’s request.

**“Imported Water”** means non-interruptible, imported water supplied by MWDSC and sold by Central Basin to Purchaser. Imported Water does not include Long-Term Seasonal Storage Service and other surplus categories of supplies.

**“Purchaser”** means a customer of Central Basin service area that has entered into a Purchase Agreement with Central Basin.

**“Purchase Commitment”** means the amount of Imported Water that Purchaser agrees to purchase from Central Basin. Purchase Commitment must be at least 60% of the Base Allocation times five. Deliveries of surplus imported water supplies, including but not limited to Long-Term Seasonal Storage Service, will not count towards the Purchase Commitment.

**“Term”** means the term of this Purchase Agreement as specified above.

**“Tier 1 Annual Maximum”** means an amount equal to 90% of the Base Allocation.

**“Tier 1 Rate”** means the price charged by Central Basin for deliveries of Imported Water to Purchaser in an amount up to the Tier 1 Annual Maximum. The initial Tier 1 Rate is \$557 per acre-foot.

**“Tier 2 Rate”** means the price charged by Central Basin for deliveries of Imported Water to Purchaser in an amount greater than the Tier 1 Annual Maximum. The initial Tier 2 Rate is \$655 per acre-foot.

**“Tier 1 Supply Rate”** means MWDSC per acre-foot Tier 1 Supply Rate, as determined from time to time by MWDSC Board of Directors. The initial Tier 1 Supply Rate is \$73 per acre-foot.

**“Tier 2 Supply Rate”** means Metropolitan’s per acre-foot Tier 2 Supply Rate, as determined from time to time by Metropolitan’s Board of Directors. The initial Tier 2 Supply Rate is \$171 per acre-foot.

## Exhibit 2

### Imported Water Purchase Agreement BASE REALLOCATION PROCESS

#### Background

In order to receive a greater amount of Tier 1 water for its customers, Central Basin has committed to purchasing supply from MWDSC. It is Central Basin's goal that the sum of Purchase Commitments of Central Basin's customer agencies must always equal Central Basin's commitment to MWDSC.

The Base Allocations and the Reallocation process are intended to maintain a full allocation of Central Basin's Tier 1-priced water to all Purchasers (customer agencies that have entered into Purchase Agreements with Central Basin) in an objective manner.

The Base Allocation determines the Purchase Commitment (60% of Base Allocation times five) and Tier 1 Annual Maximum (90% of Base Allocation) for the Purchaser.

#### Reallocation Process Outline

- Central Basin sends out notices to each Purchaser by May of each year during the term of the agreement advising the Purchaser of the status of their purchases to date and asking if each wishes to make changes to their base allocation. Requests for changes must be received by August 1 of each year.
- Central Basin will compare any request(s) for increase in Base Allocation to any request(s) for decrease. Central Basin will accommodate requests to the extent that the total of base allocation increases does not exceed the total of base allocated decreases. If more than one Purchaser requests an increase or decrease, adjustments will be made on pro-rata basis according to each Purchaser's relative share of the total request (see Reallocation Example below).
- Central Basin will respond in writing to a Purchaser's request by October 31. The Purchaser could receive less as an adjustment than what was requested.

#### Reallocation Example

	<b>Initial Base (AF)</b>	<b>Request (AF)</b>	<b>Relative Share</b>	<b>Adjustment (AF)</b>	<b>New Base (AF)</b>
Purchaser A	3,000	-500	58.8%	-382	2,618
Purchaser B	1,700	-350	41.2%	-268	1,432
<b>Total of Requests for Decrease = -850</b>			<b>100%</b>	<b>-650</b>	
Purchaser C	500	+100	15.4%	+100	600
Purchaser D	650	+250	38.5%	+250	900
Purchaser E	420	+300	46.1%	+300	720
<b>Total of Requests for Increase = +650</b>			<b>100%</b>	<b>+650</b>	
<b>Total Base</b>	<b>6,270</b>				<b>6,270</b>

## Appendix D

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Adjudication Court Order  
(Provided on CD)

## Appendix E

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### CPUC Rule 14.1 Water Conservation and Rationing Plan

RULE NO. 14.1

WATER CONSERVATION AND RATIONING PLAN

GENERAL INFORMATION

If water supplies are projected to be insufficient to meet normal customer demand, and are beyond the control of the utility, the utility may elect to implement voluntary conservation using the portion of this plan set forth in Section A of this Rule after notifying the Commission's Water Division of its intent. If, in the opinion of the utility, more stringent water measures are required, the utility shall request Commission authorization to implement the mandatory conservation and rationing measures set forth in Section B.

(N)

The Commission shall authorize mandatory conservation and rationing by approving Schedule No. 14.1, Mandatory Water Conservation and Rationing. When Schedule No. 14.1 has expired, or is not in effect, mandatory conservation and rationing measures will not be in force. Schedule No. 14.1 will set forth water use violation fines, charges for removal of flow restrictors, and the period during which mandatory conservation and rationing measures will be in effect.

When Schedule No. 14.1 is in effect and the utility determines that water supplies are again sufficient to meet normal demands, and mandatory conservation and rationing measures are no longer necessary, the utility shall seek Commission approval to rescind Schedule No. 14.1 to discontinue rationing.

In the event of a water supply shortage requiring a voluntary or mandatory program, the utility shall make available to its customers water conservation kits as required by Rule 20. The utility shall notify all customers of the availability of conservation kits.

A. CONSERVATION - NON-ESSENTIAL OR UNAUTHORIZED WATER USE

No customer shall use utility-supplied water for non-essential or unauthorized uses as defined below:

1. Use of water through any connection when the utility has notified the customer in writing to repair a broken or defective plumbing, sprinkler, watering or irrigation system and the customer has failed to make such repairs within 5 days after receipt of such notice.
2. Use of water which results in flooding or run-off in gutters, waterways, patios, driveway, or streets.
3. Use of water for washing aircraft, cars, buses, boats, trailers or other vehicles without a positive shut-off nozzle on the outlet end of the hose. Exceptions include washing vehicles at commercial or fleet vehicle washing facilities operated at fixed locations where equipment using water is properly maintained to avoid wasteful use.

(N)

(continued)

(To be inserted by utility)

Issued By

(To be inserted by Cal. P.U.C.)

Advice No. 202-W

LEIGH K. JORDAN

Date Filed

SEP 19 2008

Name

Effective

OCT 13 2008

Dec. No.

EXECUTIVE VICE PRESIDENT

Title

Resolution No.

RULE NO. 14.1

(continued)

WATER CONSERVATION AND RATIONING PLAN

4. Use of water through a hose for washing buildings, structures, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard-surfaced areas in a manner which results in excessive run-off or waste. (N)
5. Use of water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public.
6. Use of water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.
7. Use of water for more than minimal landscaping in connection with any new construction.
8. Use of water for outside plants, lawn, landscape, and turf areas more often than every other day, with even numbered addresses watering on even numbered days of the month and odd numbered addresses watering on the odd numbered days of the month, except that this provision shall not apply to commercial nurseries, golf courses, and other water-dependent industries.
9. Use of water for watering outside plants, lawn, landscape and turf areas during certain hours if and when specified in Schedule No. 14.1 when the schedule is in effect.
10. Use of water for watering outside plants and turf areas using a hand-held hose without a positive shut-off valve.
11. Use of water for decorative fountains or the filling or topping off of decorative lakes or ponds. Exceptions are made for those decorative fountains, lakes, or ponds which utilize recycled water.
12. Use of water for the filling or refilling of swimming pools.
13. Service of water by any restaurant except upon the request of the patron.

B. RATIONING OF WATER USAGE

In the event the conservation measures required by Section A are insufficient to control the water shortage, the utility shall, upon Commission approval, impose mandatory conservation and rationing. Rationing shall be in accordance with the conditions set forth in Schedule No. 14.1 as filed at the time such rationing is approved by the Commission.

Before mandatory conservation and rationing is authorized by the Commission, the utility shall hold public meetings and take all other applicable steps required by Sections 350 through 358 of the California Water Code. (N)

(continued)

(To be inserted by utility)  
Advice No. 202-W

Issued By  
LEIGH K. JORDAN  
Name

Date Filed

(To be inserted by Cal. P.U.C.)

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Title

Resolution No.

SEP 19 2003  
OCT 18 1993

RULE NO. 14.1

(continued)

WATER CONSERVATION AND RATIONING PLAN

C. ENFORCEMENT OF MANDATORY CONSERVATION AND RATIONING

1. The water use restrictions of the conservation program, in Section A of this rule, become mandatory when the rationing program goes into effect. In the event a customer is observed to be using water for any nonessential or unauthorized use as defined in Section A of this rule, the utility may charge a water use violation fine in accordance with Schedule No. 14.1. (N)
2. The utility may, after one verbal and one written warning, install a flow-restricting device on the service line of any customer observed by utility personnel to be using water for any non-essential or unauthorized use as defined in Section A above.
3. A flow restrictor shall not restrict water delivery by greater than 50% of normal flow and shall provide the premise with a minimum of 6 Ccf/month. The restricting device may be removed only by the utility, only after a three-day period has elapsed, and only upon payment of the appropriate removal charge as set forth in Schedule No. 14.1.
4. After the removal of the restricting device, if any non-essential or unauthorized use of water shall continue, the utility may install another flow-restricting device. This device shall remain in place until water supply conditions warrant its removal and until the appropriate charge for removal has been paid to the utility.
5. If, despite installation of such flow-restricting device pursuant to the provisions of the previous enforcement conditions, any such non-essential or unauthorized use of water shall continue, then the utility may discontinue water service to such customer. In such latter event, a charge as provided in Rule No. 11 shall be paid to the utility as a condition to restoration of service.
6. Any monies collected by the utility through water use violation fines shall not be accounted for as income, but shall be accumulated by the utility in a separate account for disposition as directed or authorized from time to time by the Commission.
7. The charge for removal of a flow-restricting device shall be in accordance with Schedule No. 14.1.

D. APPEAL PROCEDURE

Any customer who seeks a variance from any of the provisions of this water conservation and rationing plan shall notify the utility in writing, explaining in detail the reason for such a variation. The utility shall respond to each such request.

Any customer not satisfied with the utility's response may file an appeal with the staff of the Commission. The customer and the utility will be notified of the disposition of such appeal by letter from the Executive Director of the Commission. (N)

(continued)

(To be inserted by utility)  
Advice No. 202-W

Issued By  
LEIGH K. JORDAN  
Name

Dec. No. EXECUTIVE VICE PRESIDENT  
Title

Date Filed

Effective

Resolution No.

(To be inserted by Cal. P.U.C.)

SEP 19 2003  
OCT 18 2003



PARK WATER COMPANY  
9750 WASHBURN ROAD  
P.O. BOX 7002  
DOWNEY, CALIFORNIA 90241-7002

ORIGINAL Cal. P.U.C. Sheet No. 962-W

Canceling Cal. P.U.C. Sheet No.

RULE NO. 14.1

(continued)

WATER CONSERVATION AND RATIONING PLAN

If the customer disagrees with such disposition, the customer shall have the right to file a formal complaint with the Commission. Except as set forth in this Section, no person shall have any right or claim in law or in equity, against the utility because of, or as a result of, any matter or thing done or threatened to be done pursuant to the provisions of this water conservation and rationing plan.

(N)

E. PUBLICITY

In the event the utility finds it necessary to implement this plan, it shall notify customers and hold public hearings concerning the water supply situation, in accordance with Chapter 3, Water Shortage Emergencies, Sections 350 to 358, of the California Water Code. The utility shall also provide each customer with a copy of this plan by means of billing insert or special mailings; notification shall take place prior to imposing any fines associated with this plan. In addition, the utility shall provide customers with periodic updates regarding its water supply status and the results of customers' conservation efforts. Updates may be by bill inserts, special mailing, posting, flyer, newspaper, television, or radio spot/advertisement, community bulletin board, or other appropriate methods.

(N)

(To be inserted by utility)  
Advice No. 202-W

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